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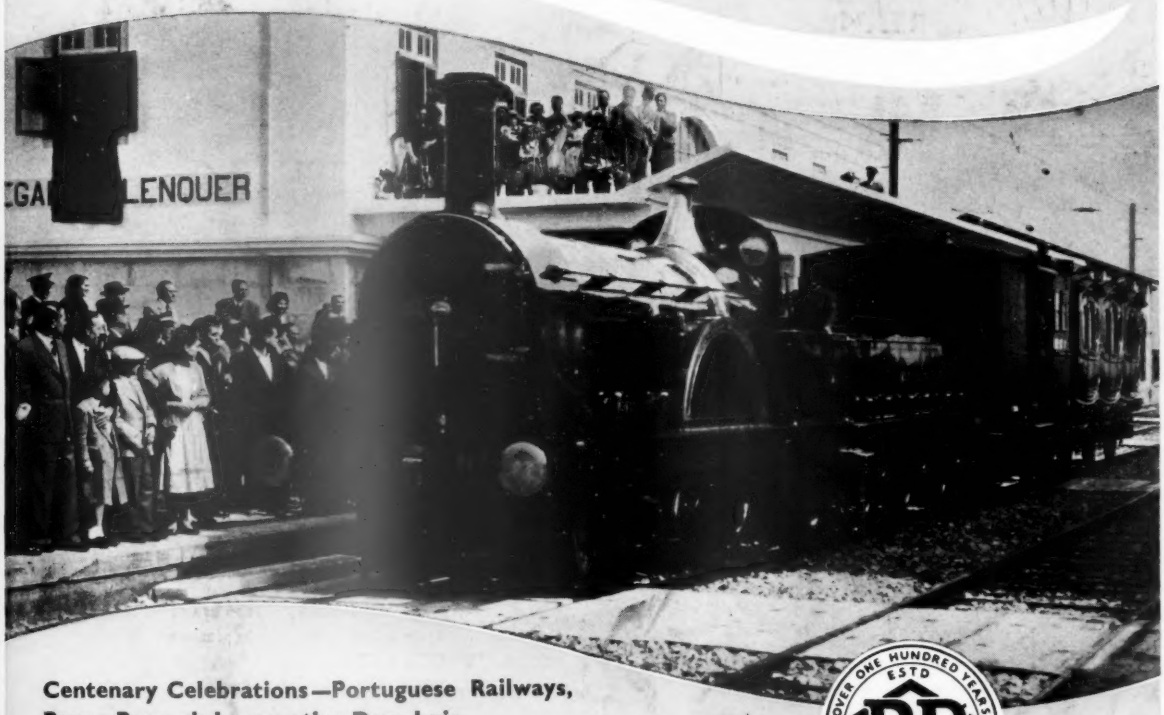


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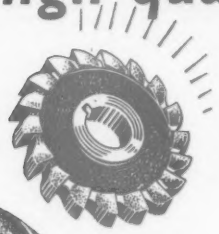

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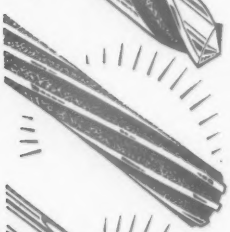

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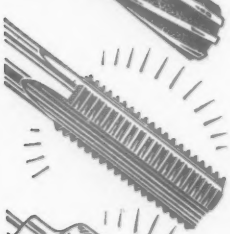

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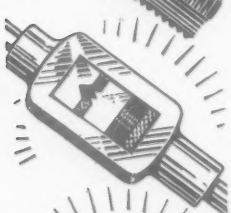

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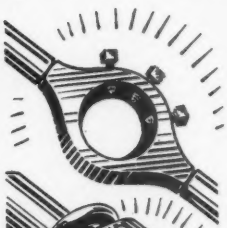

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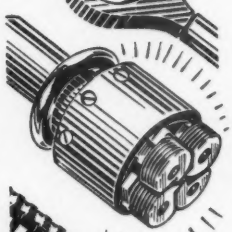

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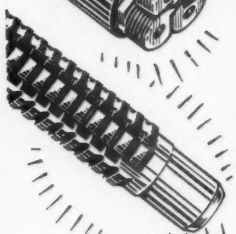

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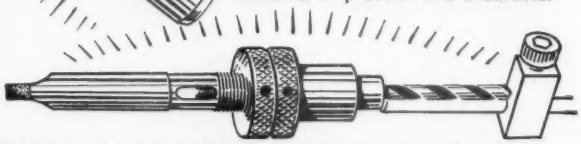

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## CONTENTS

| | PAGE |
|---|---|
| Editorial Notes | 701 |
| Transport in Parliament | 703 |
| M.P.s' Impressions of French Railways | 704 |
| Class "8" Express Locomotive Trials | 705 |
| The Future of the G.N.R. (Ireland) | 706 |
| Steel Traffic Developments in Eastern India | 706 |
| Letters to the Editor | 706 |
| The Scrap Heap | 707 |
| Overseas Railway Affairs | 708 |
| Catering for Increased Indian Steel Production | 710 |
| Conversion from Plain to Tapered Roller Bearings | 711 |
| Kings Cross Road Motor Repair Depot | 712 |
| Rolling Stock for Nigeria | 713 |
| Personal | 717 |
| New Equipment and Processes | 720 |
| News Articles | 722 |
| Contracts and Tenders | 725 |
| Notes and News | 726 |
| Railway Stock Market and Official Notices | 728 |

### Wages and Prices

THE Government-sponsored proposals for a "wages court" as an independent body to examine the many aspects of price stability, productivity, and the standard of living, seem to have met with a mixed reception when they were outlined recently to the chairmen of the boards of nationalised industries, including Sir Brian Robertson, Chairman of the British Transport Commission, and to representatives of the Trades Union Congress. The idea of such a court was put forward by the recent courts of inquiry into the pay disputes in the engineering and shipbuilding industries and was welcomed by the Government, which envisaged the wages court as a permanent body. Generally, employers have welcomed the proposals, but the trade unions seem to think that profits and dividends also should be surveyed, as, indeed, the Prime Minister, Mr. Harold Macmillan, seemed to imply in a recent speech when he said that the impartial body (or court) to be set up might inquire into "all the different aspects of price stability." When the T.U.C. Economic Committee discussed the Government plans on June 12 it was unable to agree on a firm recommendation to place before the General Council of the T.U.C. when it meets next week; the difficulties are probably on matters of interpretation and information—or lack of it—rather than anything else. It is known that some trade unionists are anxious to ensure that the "wages court" would be an advisory body only and that its establishment would in no way impede the normal process of collective bargaining; others are equally anxious to bring prices, profits, and dividends under the survey of the court. The fact that information on the composition of the court and the frequency of its sittings is called for suggests that even the Government has not formulated firm proposals and may be indulging in the now popular pastime of "doing its thinking out loud." The difficulties which wage and price agreements may meet are exemplified by the demands for a 40-hr. week and flat-rate holiday pay of £2 a day which the executive of the Confederation of Shipbuilding & Engineering Unions decided on June 13 to present to engineering and shipbuilding employers. There is a "wages standstill" in these industries at the moment, but claims such as these could result, through increased overtime, in enormous additions to wage costs.

### Birthday Honours

ALTHOUGH the current list of Honours does not depart from what appears to be normal procedure in so far as generosity to the transport industry, as apart from the Ministry of Transport, is concerned, the quality of such honours as have been awarded reflects an improvement. Both Mr. R. P. Biddle, retired Docks & Marine Manager, Southampton, and Mr. C. J. Geddes, part-time Member of the London Transport Executive, are among those to receive knighthoods. Recognition of valuable work done is also extended in the form of the C.B.E. to Mr. C. K. Bird, General Manager of the Eastern Region of British Railways, Mr. W. D. Farrington, Chief Inspecting Engineer, Crown Agents, and Mr. C. G. Harrison, General Manager of the Malayan Railway. While we are unable to impute prodigality to those responsible for recommending the allocations of these honours, we must admit that they have done better this time than for some while previously. This indeed was not difficult of achievement. Is it too much to hope that there will be a further improvement in their performance, particularly as regards numbers of railway recipients, in the New Year List?

### £4,000,000 B.T.C. Contract for B.M.C.

THE British Motor Corporation has recently entered into a contract with the British Transport Commission to supply a large number of vacuum brake cylinders over the next three years. This contract is valued at £4,000,000 and is part of the British Railways modernisation plan designed to speed-up the working of freight trains. In addition to this large order, the British Motor Corporation has secured a contract for a considerable quantity of buffers of a new type, which are being introduced expressly for the purpose of reducing shock during shunting operations. The British Motor Corporation hopes to do still more work for British Railways, particularly in connection with improved braking systems. There can be no doubt that the placing of orders of this magnitude by the B.T.C. with undertakings such as the British Motor Corporation is in pursuance of the policy of the Commission to do all in its power to draw on sources of supply outside the normal field of railway manufacturing interests in an endeavour to accelerate the progress of the modernisation plan.

### London-Brussels Overnight

THE regular through sleeping car service between London and Paris via the Dover/Dunkirk train ferry is so well patronised that the recent introduction, currently with that of the European summer passenger timetable, of a similar "Night Ferry" service, using the same ferryboats

as the London-Paris cars, must be welcomed by all travelling on business, whether to or from Brussels, or the important centres of Lille, en route to Brussels, or of Antwerp, half-an-hour beyond Brussels by frequent electric trains. Before the last war the L.N.E.R. and its predecessor, the G.E.R., operated the admirable overnight service via Harwich/Antwerp, with its comfortable ships and convenient schedules. War losses of the ships precluded revival of the service in its prewar form, though a rather slower Harwich-Antwerp passenger service, worked by an older steamer, was restored, with thrice-weekly sailings, but withdrawn after a few years when the vessel became obsolete. Since then the only feasible London-Brussels overnight surface route has been via Harwich/Hook of Holland/Rotterdam/Antwerp, and also via Dover/Ostend during the currency of the night service in the summer holiday season.

## Overseas Railway Traffics

PARAGUAY Central Railway receipts for the week ended May 3, 1957, were G1,729,781, an increase of G178,420 on the corresponding week of 1956. Receipts continued, in general, to be considerably better than those of the previous year. At May 31, aggregate receipts were G88,783,169; this was G21,986,592 more than in the corresponding period of 1955-56. The financial year ends on June 30. Salvador Railway Company receipts for April were colones 224,000, compared with colones 257,000 for April, 1956; the aggregates for the 10 months July—April of 1956-57 and 1955—56 were respectively colones 2,698,0000 and 2,434,000. Canadian Pacific railway revenues for April were $42,072,350 (against $41,315,846 for April, 1956) and railway expenses $39,987,030 ($39,285,580), so that net earnings were $3,085,320 ($2,030,266). The aggregate net earnings of the C.P.R. from January 1 to the end of April were $5,548,510 ($7,575,269). The latest figures received from the Midland Railway Company of Western Australia Limited show that estimated road and rail receipts for March were £A75,215 (against £A66,401 for March, 1956), whilst the aggregate for the nine months July—March was £A689,764 (£A626,464).

## Signalling Conversion

LIVERPOOL STREET and Fenchurch Street will be the first London terminal stations where electric trains will be operated on the 6·6-kV., single-phase, industrial-frequency system recently adopted by British Railways. Contracts for modifying track circuits and signalling apparatus in readiness for the changeover to a.c. traction at these termini and in the vicinity have been placed with the Siemens & General Electric Railway Signal Co. Ltd., which was responsible for the existing power signalling installations at both places. The work will include the re-winding of several hundred relays to adapt them for operation at 83⅓ cycles, and their protection by resonated filters to oppose the 50-cycle traction current. Some a.c. searchlight signals will be converted to 83⅓-cycle working and d.c. searchlight signals protected from 50-cycle traction currents, while route indicators, banner signals, and other auxiliaries will be equipped with protective chokes. The contracts cover cabling for the 83⅓-cycle signalling supply, including specially screened cable for an independent supply at this frequency to provide additional protection against false operation of relays.

## Prototype Underground Stock

THE use of unpainted aluminium coaches on the Underground lines of London Transport will be extended with the delivery of three prototype tube trains in the near future. The first train is now being completed by the Metropolitan-Cammell Carriage & Wagon Co. Ltd. and is expected to go into service in mid-July. Two others, being built by the Gloucester Railway Carriage & Wagon Co. Ltd. and the Birmingham Railway Carriage & Wagon Co. Ltd. will be ready in September. The aluminium lightweight panelling to be used makes painting unnecessary and results in a considerable saving in maintenance costs. The first unpainted coach went into service on the District Line in June, 1952, and was followed by a complete train, and the experiment has evidently proved a complete success. The three prototype trains will have Metalastik suspension and an entirely new type of interior, featuring a maroon and two-tone grey colour scheme. Birds-eye maple plastic will be used for end partitions and lighting will be by "sun-tan" fluorescent lamps. The seating will be re-arranged to avoid non-facing cross seats, which have proved unpopular, and a useful exterior feature will be a large roller destination blind high up on the front of the train where it can easily be seen above the heads of passengers waiting on platforms crowded with peak-hour traffic.

## Western Region Inter-City Diesel Services

THE first of the express multiple-unit diesel trains to run in regular service in the Western Region of British Railways was introduced between Birmingham Snow Hill and Swansea High Street last Monday. The trains, built at Swindon, are similar to those operating the Glasgow-Edinburgh services of the Scottish Region and were described in our issue of August 3, 1956. Not only will these buffet trains double the existing service between South Wales and Birmingham but they will also set a new standard of speed, the 2¼ hr. allowed for the 8·25 a.m. and 8.30 p.m. trains from Birmingham to Cardiff being 15 min. less than that of the fastest train before the diesels were introduced. They will also provide two Sunday services on the route. The trains will normally be made up of either three or six vehicles, the first class accommodation in trailers and the second class in the power cars, each of which is fitted with two B.U.T. 150-h.p. engines. The control equipment allows all engines to be controlled from any driving cab, and each train, whether of three or six cars, can be driven from either end.

## Faster to Scotland

NEW expresses between London and Scotland by East and West Coast routes began running last Monday: the "Caledonian" of the London Midland and the Scottish Regions between Euston and Glasgow Central, and the "Morning Talisman" of the Eastern, North Eastern, and Scottish Regions between Kings Cross and Edinburgh Waverley. Brief accounts of inaugural runs appear on another page. We were struck by the comfort and good appearance of both trains, by their appointments, the good catering arrangements, and, in general, the way in which the principles of good design have been applied to every detail. The schedules by both routes provide departure and arrival times convenient to travellers on business. The running of "Caledonian" has already shown that the 6-hr. 40-min. timing between Euston and Glasgow can be maintained without difficulty with the 264-ton load over the 401¼ miles. It seems a pity that the "Talisman" has not been accelerated to give a 60-m.p.h. start-to-stop average over an easier route. The smoothness of the motion and absence of hunting of bogies in the East Coast train are very noticeable—attributable doubtless to a great degree to the tapered roller bearings which have been fitted in recent weeks to the rolling stock concerned. The bearings are described on page 711.

## Fifty Years of Anti-Friction Bearings

THE invention of what are now known generally as anti-friction bearings has revolutionised the expectation of the working life of machinery by allowing considerable increases in bearing loads and speeds. One of the groups which has been in the forefront of the design, manufacture, and application of such units has been the Skefko (SKF) Organisation, so called after the name of the original Swedish company Aktiebolaget Svenska Kullager

Fabriken, which celebrates the jubilee of its foundation this year. The problem of producing a bearing which could accommodate possible shaft misalignment, had been studied by the founder of SKF, Sven Wingquist, for some time, and a few weeks after the formation of the company in 1907, he found the answer with the double-row self-aligning ball bearing, a design which has not only revolutionised ball bearing engineering, but also become practically synonymous with the company. The first application of the company's self-aligning bearings to axleboxes was in 1913, when wagons thus fitted were put into service by the Swedish State Railways. In this country a factory was opened at Luton in 1910. This centre now produces all the inch-size bearings for European requirements, and is engaged on the manufacture of specially designed inch-size wagon and railcar axleboxes to British Railways requirements. World sales of SKF products today amount to some £100 million, a far cry from the company's first share capital of some £5,000.

### Automatic Gearchanging for Railcars

ALTHOUGH the first rail application of a fully-automatic gearbox, the Freeborn, was some 20 years ago, the announcement of the fully-automatic gear-change mechanism manufactured by Self-Changing Gears Limited, which has been fitted to a British Railways diesel railcar is significant because it can be fitted with little alteration to standard equipment and the stock can be operated with units with normal gear-change arrangements. Most other so-called "automatic" gearboxes, which have been developed have usually been of the type which requires a manual selection of a push-button or similar device. In the present arrangement gearchanging is out of the driver's control and depends purely on vehicle speed and engine throttle selection. The power car and its trailer are working the Conway Valley branch of the London Midland Region. Apart from a promise of improved fuel consumption, and reduction of wear on the fluid coupling and transmission, a solution has been found to the problem of familiarising drivers who have spent long service with an entirely different form of motive power and driving technique. A further advantage of the new transmission arrangement is that the driving method for all the three future forms of locomotive power—diesel-mechanical, diesel-electric and electric—are rendered similar, as the locomotive speed is controlled basically by one lever incorporating a deadman's handle, thus, one assumes, allowing drivers, if required, to be interchangeable.

### Jubilee of the Hampstead Tube

SATURDAY, June 22, 1907, constituted an important landmark in the development of the underground railway system of London. On that day, Mr. David Lloyd George, President of the Board of Trade, formally opened the original eight miles of the Hampstead Tube, extending from Charing Cross (now Strand) to Golders Green, with the branch from Camden Town to Highgate (now Archway). There was an air of finality about the whole event, and advertisements were headed "The Last Link." In a sense the claim remains true half-a-century later, as no new railways through the central area have proceeded beyond the paper stage. Shortly before the line was opened, Albert Henry Stanley (afterwards Lord Ashfield) had been appointed General Manager of the tube railways in the Underground Group and his name will forever be associated with the subsequent growth of the great urban system now constituting London Transport. The Hampstead Tube has long since lost both its name and its individuality, and has become part of the Northern Line. By means of absorbing the pioneer City & South London Railway, building an extension to Edgware, and projecting its trains to High Barnet and Mill Hill East over the tracks of the former L.N.E.R., it has become part of a complex network totalling more than 40 miles, and including the longest continuous tunnel in the world, the 17 miles 528 yd. between East Finchley and Morden via the Bank.

## Transport in Parliament

PARLIAMENT reassembles on Tuesday, and before it adjourns for the summer recess at the end of July a number of transport matters will come before it, both major and minor. Most important will be the report and accounts of the British Transport Commission due to appear before the end of June. The Opposition is likely to ask for a full day's debate on them before the adjournment, as last year's report was not discussed by Parliament. When an opportunity was provided just before Easter, the Opposition understandably informed the Government through "the usual channels" that it was too late: there was little use in debating accounts for 1955 in April, 1957, especially in view of the considerable developments within the organisation of the Commission and as the latter had subsequently embarked on its modernisation programme. The Opposition then staked its claim for an early debate on the accounts for 1956, when they appeared, and hence the certainty that it will be held next month.

It is regrettable that the public industries find it impossible to prepare their accounts with greater speed. Admittedly the Commission is the largest single undertaking in the country, but it is almost entirely engaged at home and a full six months seems an inordinately long time in which to bring them out. Because of the length of time since the last full-scale debate on the Commission's affairs and the developments that have taken place, M.P.'s have an opportunity to show that they can be constructive and put the interests of transport—the national interest, in fact—above party politics. Transport has too long been a shuttlecock in the Parliamentary game and it is to be hoped that Members will now show a full sense of responsibility and analyse the accounts and examine the report objectively. This is particularly desirable at this time, because the Commission is at last in a position to reap the full benefit of the transport policy instituted by the Conservative Government when it took over in 1951. Only now will the full effects of the 1953 Act and subsequent legislation be felt. The policy constituted a changeover from the monopoly organisation of the Labour nationalisation policy of a return to the competitive system, and in this the Conservatives have succeeded in achieving their purpose. With the greater flexibility that the Commission now has in regard to charges, and the other reliefs it has obtained from burdensome statutory restrictions, it is in a far better position to compete with other forms of transport than ever before. In fact, in many respects, the railways are far freer than before the last war.

Objective examination, however, is necessary, as there is disappointment both inside and outside Parliament at the railways' failure to capture and retain the traffics that flowed their way during the period of oil restriction. The latest traffic figures show an unhappy failure in this regard. Parliament is certain to demand an explanation of this, and British Railways may come in for some severe criticism, more particularly as to the service offered and to the apparent deficiencies in regard to speed, regularity, and security, and, of course, to cost. A good many consignors who are reported to have given the railways a fair and unprejudiced trial during the Suez affair unfortunately have returned to road transport. It is regrettable that the full benefit of the new charges scheme which comes into force next month was not already available, but to excuse the railways' failure to hold traffic on that account would be to evade the issue. The railways clearly are not yet in a position to offer as satisfactory a service for certain traffics which they would like to carry, and only after completion of a number of measures aimed at modernisation and betterment will they be able to do so. The problem of railway passenger services—including the improvements incorporated in the summer services—also will be borne in mind. It may be that some M.P.'s will question, more even than on previous occasions, the wisdom of embarking upon the £1,200 million modernisation and re-equipment programme and to question whether it can do more than help the railways to maintain traffics at present levels; they may feel that the railways' proportion of total traffics may continue to decline, but that the

improved services made possible by modernisation may slow down the process.

Those Members who are more road-minded than railway-minded will demand that the roads be treated with what they regard as equal generosity (forgetting that the railway modernisation plan is spread over 15 years) as regards capital investment and a debate on the roads programme, considered quite inadequate by Members on both sides of the House, is also likely before the summer adjournment. Minor transport matters will be raised on the debate on the Gowers Report on Tuesday and the final stages of the Finance Bill. It is significant that Mr. David Jones, spokesman for the National Union of Railwaymen, is one of the sponsors of the motion on the Gowers Report. Although the main reason for the debate is to attack the Government for dropping the Shops Bill, the opportunity will be taken to demand that the recommendations in regard to working conditions and amenities in railway workshops, running sheds, and railway offices be implemented by the Commission, if not voluntarily then by legislation. So far the Commission has resisted this on the grounds that it was bringing conditions into line with the recommendations, but the unions are far from satisfied that this is so. On the Finance Bill the usual arguments will be produced for reduction in the fuel duty when amendments to that end are discussed. Opinion in Parliament seems to be growing that the fuel tax should apply equally to all transport users, which would include the railways as regards diesel oil.

## M.P.s' Impressions of French Railways

THE high average speed and power, combined with smooth running, of both passenger and freight trains resulting from electrification and dieselisation, and the successful application by a highly qualified and enthusiastic staff of advanced techniques were among the general impressions brought back by the all-party group of M.P.s who recently visited the French National Railways, as recorded in our April 19 issue. These main impressions can be listed as: (*a*) economic and efficient working resulting from electrification of main lines and in particular of the economy of the 50-cycle a.c. 25-kV. system developed by the French and adopted by British Railways; (*b*) technical advance and saving from remote control both as regards electric substations and signalling and, related to this (*c*) effective use in appropriate conditions of two-way reversible working; (*d*) value of diesel railcars and trainsets on secondary lines and cross-country routes; and (*e*) enthusiasm and high quality of the technical, managerial, and operational staff.

There were no illusions that the same solutions to similar problems could necessarily be applied to British Railways, where traffic densities are greater and which operate where the topography is very different. These differences were made clear to the visitors, who were also struck by the high productivity of French railwaymen; in this connection, however, the short hauls and complex railway geography of Britain, which necessarily increase the amount of operating staff, must be borne in mind. The heavy burden of pensions to French railway servants, who retire early, also must be borne in mind. In organisation the Regional organisation of the S.N.C.F. and its similarities and dissimilarities to that of British Railways, also was considered. Against this background, the party toured a large section of the electrified system. Technical details of the modernisation measures taken by the S.N.C.F. appear in our pages from time to time, and in any case M.Ps. are not technically qualified to judge them. Their experiences, however, riding in the electric locomotive hauling the "Mistral" at an average of 84 m.p.h. between Dijon and Lyons, in an electric freight engine hauling 1,650 tons between Hirson and Valenciennes on the 50-cycle 25-kV. a.c. system, and in diesel railcars averaging an overall 70 m.p.h. with intermediate stops, could not but intrigue them. Inevitably it led them to inquire how it was possible to achieve such smooth running at so consistently a high speed and with perfect timing. But for electrification and dieselisation this would not be possible, but such impressive results would not be forthcoming without suitable track, road bed, rolling stock and signal control. The answer given by S.N.C.F. officials was threefold: improved permanent way resulting from flat-bottomed and welded rails, improved ballasting, graduated curves and gradients; second, improved rolling stock including sound-proofed air-conditioned coaches, and third, only colour-light signalling. The party travelled on the Valenciennes-Thionville line on a locomotive pulling 1,650 tons in 70 wagons, which stopped on a gradient of 1 in 90, held and then started up smoothly without any apparent effort or backing and proceeded up the gradient at a steady 20 m.p.h. Maximum speed was under 40 m.p.h. but a high average of 30 m.p.h. can be maintained by this type of locomotive which was a heavy-duty freight, single-phase d.c. rotary convertor CC locomotive of 3,000 h.p.

As to the financial results of the S.N.C.F., the deficits did not go unremarked by the visitors. For 1957 a deficit of some £40 million has been budgeted for. But that is not the whole cost to the taxpayer. The State pays 60 per cent of permanent way maintenance costs, the justification being that since it maintains the roads only thereby can equality be meted out to the railways. The State also pays the pensions of the 100,000 railwaymen compulsorily retired since 1949. In addition, Parliament must vote in the national budget annual credits to meet the concessionary fares which the railways are directed to grant, e.g. holiday rates.

In view of the calls on the national finances by the railways it is understandable that the control exercised by the Government and Parliament is much greater than in Britain. In the first place, the structure is different, as the railways are organised through a mixed company, the capital of which is held by the acquired railway companies and the State. The board consists of nominees of the State, the shareholders and the trade unions. The chairman of the board is appointed by the State. While the board is responsible for running the railways commercially, control is exercised by the State in such a way that conflict between it and the management is inevitable. For instance, the Government must authorise the wages of the staff and charges. No changes in either can be made without Government authority and this means that often political and not economic considerations prevail. This year the S.N.C.F. has been refused authority to raise its tariffs to bring in additional revenue of £15 million to meet higher wages and other costs. Consequently, the Government has to find that much more because of the reluctance of all governments to authorise higher fares and charges, railway tariffs have risen only 20 times over prewar, whereas costs have gone up 30 times. Consequently only 80 per cent of costs are covered by receipts, the remaining 20 per cent being met by subsidies.

To exercise control, representatives of the Ministry of Finance sit at railway headquarters and attend board meetings in an advisory capacity. Representatives of the equivalent to the Ministry of Transport, the Ministry of Public Works, advise on technical problems and investment programmes, and on all matters of major policy have to be consulted. All contracts above a certain level must be authorised by the Ministry. Parliament also exercises far greater control over the S.N.C.F. than does the British Parliament over British Railways. Not only must the subsidies and investment funds be voted by it but permanent control is exercised by Parliamentary Committees. A sub-committee of the committee on nationalised industries, for instance, has wide powers of inquiry into management and exercises them, and the audit commission possesses similar powers in regard to finance. In one way and another, therefore, the freedom of railway management and staff is much restricted. The marvel is that not only is such initiative and enterprise shown but also that great enthusiasm is retained. Judged by technical achievements and operational efficiency, the French National Railways are highly successful. Financially they are not, and for that the reason is largely political.

## Class "8" Express Locomotive Trials

THE British Transport Commission has just published details of the trials conducted in 1955 with the standard class "8" express passenger Pacific engine No. 71000, *Duke of Gloucester*. The bulletin prepared by the Locomotive Testing Committee is one of the longest yet issued, running to more than 100 pages. One can imagine two immediate reactions to this beautifully produced work, published at the moderate price of 10s. Locomotive men will peruse it to the last detail, for No. 71000 is the final, ultimate development of the British express passenger steam locomotive; on the other hand many who are now entirely concerned with looking forward may feel that the time, trouble, and money spent not only on the bulletin, but on the tests themselves, were wasted. For while No. 71000 may originally have been conceived as a prototype, by the time she was on the road the edict has gone forth—no more steam for British Railways.

We do not subscribe to the latter view. The Locomotive Testing Committee is concerned not only with steam, but as a result of the very important series of tests conducted since the establishment of the Committee in 1948 it has come to be realised—belatedly—that much of the testing carried out on British Railways before nationalisation was sketchy and inconclusive, and the results obtained were not capable of reconciliation with known factors existing at the time of the tests. Thanks, however, to the enthusiasm put into much of the post-nationalisation testing the uncertainties and irrelevancies have been largely removed, and it can no longer be said, as was said so often in earlier years, that the steam locomotive was one of the least understood of machines. The greatest care is now taken to make all the test results hang together in a single pattern, and we in particular know something of the elaborate cross-checking that takes place at Swindon after the results of a test have been collated. This strict test procedure, the routine checking, and test discipline will not pass away with the steam locomotive. It would have been a tragedy if British Railways had passed into the new age with their motive power arrangements based on a set of facile assumptions and empirical formulæ. Fortunately, there seems little risk of that now, as each new design of motive power unit comes under the scrutiny of the Locomotive Testing Committee. This body is doing its work well, perfecting its techniques while improving steam locomotives for the difficult years of the changeover period, so as to be ready to take the new power as it arrives.

As to the Pacific engine No. 71000, *Duke of Gloucester*, in certain circumstances it might have been easy for lovers of the steam locomotive to grow sentimental over this machine—the very last of the long and varied line descended from Trevithick's Penydarran venture. Moreover No. 71000 is a British Railways engine, and therefore might be expected to embody the fruits of experience from all the big four companies of the grouping era, not to mention the experience gained since nationalisation with the earliest British Standard locomotives. To those who might have expected a super locomotive—the strength and surefootedness of a "King," the swiftness and economy of an "A4," combined with the "get-at-able" qualities of a "Britannia"—we fear that the bulletin issued by the Locomotive Testing Committee will be a disappointment. It is a disappointment not only in the actual results, but in the absence of any attempt to explain what can only be described as certain rather surprising features of the performance of this locomotive. In studying the bulletin it is no more than natural to compare details with those of earlier bulletins dealing with other locomotives of approximately the same power, and it is then that the peculiarities come more clearly to light.

One characteristic of No. 71000 seems to be the rather heavy coal consumption at high output. In earlier tests Pacific locomotives have been taken up to steady evaporation rates of 30,000 lb. per hr. steam to cylinders, and the coal consumption to produce such an evaporation has been around 4,000 lb. per hr. Even with the "Merchant Navy" class in its original form, a design not especially famed for economy of fuel, the coal rate measured at Rugby did not exceed 4,100 lb. per hr. But with 71000 the coal rate was 4,500 lb. The graphs included in the bulletin show clearly that this is no snap result; the particular value selected for comparison lies on a smooth curve, which is carefully cross-checked by the whole family of related curves concerning evaporation and fuel consumption. This characteristic of high coal consumption is accentuated by the results of those tests taken when the boiler was extended to its limit, either of grate or front-end. The maximum of the "Britannia" was limited by its front end to 31,600 lb. per hr., with coal consumption of 4,320 lb. per hr. The grate limit was not approached. But the double-chimney No. 71000, stoked hard by two firemen, was steamed up to the grate limit. This came at 34,000 lb. per hr. steam to cylinders, and at the enormous coal rate of 7,000 lb. per hr. It is true that on her tests at Rugby the "Merchant Navy" class engine was fired up to the same high coal rate, but at that rate the curve of evaporation, against coal rate, was still steeply rising, even though the high steam rate of 42,000 lb. per hr. had already been reached.

No explanation appears to be forthcoming to explain the shortcomings of No. 71000 in this very important respect, but it would seem that the answer to the question may be found in the relationship between the coal fired and the coal fully burned. Up to a firing rate of 3,000 lb. per hr. the relationship can be described as quite satisfactory, with 92 per cent of the coal fired fully burned; but thereafter the ratio falls to 84 per cent at a firing rate of 4,000 lb., to 75 per cent at 5,000 and 66 per cent at 6,000. By the time this latter firing rate is reached it did not seem to matter how much more coal was fired; the amount of coal fully burned seems to have reached a maximum limit of about 4,100, and anything more than this went up the chimney unburnt. It will be conceded that firing rates above 3,000 lb. per hr. are rarely to be seen in ordinary traffic conditions; but the main purpose of fitting twin orifice blastpipes to large modern locomotives is to increase their capacity in the highest range of power demand, and while the "Merchant Navy," the "Duchess," and the "King" can pull out that extra effort for a short period, the *Duke of Gloucester* apparently cannot.

On the other hand the cylinder performance is extremely good. The indicated horsepower for any given steam rate is higher than for any of the large locomotives so far examined by the Locomotive Testing Committee. In consequence the overall efficiency as represented by the coal consumption per drawbar horsepower is reasonably good. It is generally agreed nowadays that no train schedules shall be laid down involving a firing rate of more than 3,000 lb. per hr. on a continuous basis. Using grade 1A coal a feed of 24,000 lb. per hr., steam to cylinders, can be expected from the *Duke of Gloucester*, whereas on previously published results roughly the same can be expected from a "Britannia," and slightly more from a "King," in the latter case on Welsh coal. It would seem that on normal maximum rates with medium quality coal such as one can expect today the *Duke of Gloucester* shows no appreciable divergence one way or the other from existing types, though at higher rates her coal consumption begins to soar.

The good cylinder performance may very well be traced to the Caprotti valve gear; but recalling the experience with several famous engines in the past one is inclined to be a little sceptical over early results from poppet valve gears. We have memories of several designs that opened with the most brilliant promise, but which afterwards succumbed to the mediocrity of high coal consumption and high maintenance charges. The bulletin naturally makes no reference to the wider aspects of the performance of No. 71000, such as repair costs, mileages between shopping, and so on. It is probable that these will show the engine in a very favourable light; but so far as thermodynamic performance is concerned, the final locomotive designed for express passenger service in this country has proved nothing out of the ordinary.

## The Future of the G.N.R. (Ireland)

THE proposed closure of more than 90 miles of line of the Great Northern Railway of Ireland is meeting with great opposition in both Northern Ireland and the Republic. While the arguments for and against closure have been discussed from time to time in this journal, attention must be drawn to the possible adverse effects the closure of these branch lines may have on the tourist industry, the encouragement of which might well result in the acquisition of a great part of the money so urgently required for the operation of these lines and for the improvement of the G.N.R. as a whole.

For many years the close co-ordination of road and rail has been urged in Irish transport circles and particularly in the early New Year of 1946, when the Northern Ireland Ministry of Commerce issued a White Paper entitled "Public Transport in Northern Ireland," wherein this problem was very fully discussed. Had greater heed been paid to the advocates of this policy at the time it might well be that resultant road-rail co-ordination, coupled with the dieselisation now taking place on the systems concerned, would have solved the financial problems now facing the G.N.R. and U.T.A. It is a great pity that the new diesel railcars, constructed according to principles which have proved their worth all over the world on short, intensely-used passenger runs, are apparently not to be allowed to show their efficiency on the seemingly-doomed "common lines" which adjoin or cross the Border.

The whole matter constitutes an inward-travelling spiral, and therein lies the danger. Complete dieselisation and modernisation of the Great Northern Railway is dependent on the acquisition of further funds to finance the new schemes, and the availability of sufficient funds is in its turn dependent on the revenue accruing from the operation of the system. One of the most promising revenue-producing avenues for any country is its tourist trade and there is little doubt that, were Irish tourist facilities developed to the full, both North and South could compete with any of the presently-popular tourist areas. Ireland has the raw materials of a first-class tourist industry: the friendliness of her people is a by-word, her scenery is beautiful and unspoilt, and she enjoys a reputation for good food. At present there is a lack of hotel and boarding-house accommodation throughout the country as a whole, but this might be overcome by following Continental practice, under which there is excellent liaison between tourist offices and the ordinary people in town and countryside. The result is a network of reliable *pensions* and private houses willing to provide holiday accommodation at low cost and in surroundings typical of the area. Arrangements of this kind might well prove very successful in attracting the many tourists who either do not want or cannot afford a holiday at a large and expensive hotel. Developments in these directions would undoubtedly be hindered were the country branch lines of the Great Northern progressively closed down.

## Steel Traffic Developments in Eastern India

WITH the increase in steelworks output and construction in Madhya Pradesh (formerly the Central Provinces) and neighbouring areas, the demand for greater supplies of coal to feed the smelters is becoming of vital importance. One of the most promising fields where coal exists in quantity near the surface is the Korba area. Korba is some 24 miles due north of Champa, a station not far east of Bilaspur and on the Calcutta-Nagpur-Bombay trunk line of the South Eastern (former Bengal-Nagpur) Railway. In October, 1953, the Ministry of Railways sanctioned a 5 ft. 6 in. railway construction to connect Champa and Korba at a cost of £273,750.

The line was sufficiently complete to permit of its being opened for goods traffic in April, 1956, and it was finally opened for passenger traffic also in September of that year. It is a standard "C" single-line railway with 16 ft. 6 in. formation in banks and 22 ft. 6 in. in cuttings. The ruling gradient is 1 in 150 against the load from Korba to Champa; 19¼ per cent of the 24-mile length is curved. Of 70 bridges and culverts, four are girder structures and several are arched. There are two intermediate non-interlocked crossing stations and one flag station, and the track has 95-lb. second-hand B.S. rails laid partly on wooden and partly on steel sleepers bedded on cinder or moorum ballast, except in cuttings and on bridges where it is of stone. There are four manned and 26 unmanned level crossings and operation is on the absolute block system, using paper line clear tickets.

Some 270 miles east of this new branch line the same railway is carrying out numerous important works to meet the prospective doubling of the Indian Iron & Steel Company activities at Burnpur. These measures include the doubling of the 20-mile Anara-Burnpur section, a new spur line east of the Damodar Bridge to provide direct running between the Jherriah area and Sini, an increase in the capacities of the Anara and Burnpur marshalling yards, and the construction of a new type of 65-ton side-discharge hopper wagon. These developments are described on another page. Korba station is expected to be sending about 4,000,000 tons of coal over the branch to Champa by the end of the Second Five-Year Plan period, but it will have to be fed by at least one short extension to the mines before such development is possible.

# Letters to the Editor

(*The Editor is not responsible for opinions of correspondents*)

## Motive Power Policy

June 10

SIR,—The recent announcement of further orders for main-line diesel locomotives raises once again the question of motive power policy in relation to the modernisation programme for British Railways.

There can be no doubt that diesel railcars and multiple-unit diesel sets for branch and secondary line duties will be an essential feature of the future pattern of railway motive power in this country. Similarly, the case for diesel shunting locomotives is unmistakably clear. Main-line diesel locomotives, however, are quite another matter. It is extremely difficult to see what economic justification there can be for the large outlay of capital expenditure on a multiplicity of different types of diesel-electric and diesel-hydraulic locomotives for main-line service.

The only effective way of increasing the traffic-carrying capacity of our main lines is by adopting the policy of complete electrification. It is significant that other European railways, notably in France and Holland, are putting the main emphasis on electrification rather than on diesel traction. The example set by the French National Railways in this respect should be followed up with a much greater sense of urgency in the United Kingdom. The present programme for electrification from Euston to Liverpool and Manchester is painfully slow. This is a task which should be tackled from a national point of view with the same degree of priority as the nuclear power station programme.

If in the meantime main-line diesel locomotives are to be built at all, it would surely be better to concentrate the locomotives in one Region alone and aim at a complete changeover from steam to diesel traction within a limited area. The present apparently indiscriminate mixing of steam and diesel traction cannot possibly be an economic proposition.

Yours faithfully,

J. M. KAY

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14, Onslow Gardens, S.W.7

# THE SCRAP HEAP

### Punctual Pachyderms

First Elephant 7.10 a.m.
Last Elephant 12.15 a.m.
—From a B.R. notice of Holiday travel arrangements. — "*Peterborough*" *in* "*The Daily Telegraph.*"

### Service in Sweden

The item in the "Scrap Heap" of May 31 entitled "Praise for S.A.R. & H.," reminds a correspondent of a similar example of service which he received some years ago from the Swedish State Railways. He was travelling from Stockholm to Gothenburg when the cap of his fountain pen fell behind the grill protecting the heater on the floor of the coach underneath the window. The train attendant asked what had been lost, and within a few moments a fitter who was travelling with the train came, removed the grill, and retrieved the fountain-pen cap.

The offer of something in return for this service was politely declined with the statement: "It is a pleasure for the Swedish State Railways to perform any little service for their passengers."

### New Exhibits for York Museum

Additions to the Small Exhibits section of the Railway Museum at York include a camera made by Thornton-Pickard of Manchester, which used plates 20 in. by 24 in. It is approximately 3 ft. 6 in. square and has expanding bellows. The camera was recovered from the Darlington (Stooperdale) railway offices which were at one time the Headquarters of the Chief Mechanical Engineer, North Eastern Railway, whose department used it during 1875—1900.

Another exhibit is a theodolite with compass, used during the laying out of the Newcastle & Carlisle Railway (1829—38). It was made by T. O. Blackett, Surveyor for part of that railway, who had worked under George Stephenson on the Liverpool & Manchester. The theodolite is constructed in brass and each joint of its three legs has it own individual thread. It has very fine hand-engraved graduations. The compass, of ship's type, was made by Gilbert Wright of London.

### Building a Line Over an Irish Bog

A correspondent writes that in 1857 Captain Francis DuBourdieu drew up plans for a railway over a bog to link his peat charcoal works with the new line of the Portadown & Dungannon Railway (later G.N.R.) due to be opened in 1858. The proposed branch was to run across the bogland to Annaghmore Station, on the main line. Captain DuBourdieu designed a double row of piles of elm wood, driven into the boggy ground at 5-ft. intervals, each two in the double line being capped with a log crosshead fixed with iron head straps on the pile stumps which stood at an average of 3 ft. above the surface, with longer stumps in the bog depressions. On these crossheads two beams of log timber, squared, were to be fixed to support the rails of the railway. The project encountered local opposition and was abandoned.

### Handled with Care

Almost every week a train passes through Rhodesia loaded with sufficient explosives to blow up a fair-sized town. It is the "Copperbelt Explosives Special," which runs 2,300 miles from the Cape to the borders of the Congo. Each wagon contains 16 tons of explosives, and no chances are taken of a hot axlebox developing. On the slightest suspicion of trouble, the particular wagon is detached from the train and the contents off-loaded immediately into another wagon. After two days' steady steaming through the Cape, the train approaches the Bechuanaland border, keeping to a rigid timetable. By the fifth day it is passing the check point at Bulawayo, and it continues through Northern Rhodesia to Ndola, where it finally arrives a week after it started out. Then the five or six wagons required for each of the copper mines are shunted off and attached to branch line trains to complete the last lap of the journey.

### Direct Route

Blackpool at Whitsuntide did not appeal to Thomas M . . . aged 9 . . . He set off to walk home just after breakfast along the railway line. Eight miles and five stations later he was seen by a platelayer at Lytham. Thomas was taken to Lytham police station and given a meal. He was reunited in the evening with his mother who was staying at Crystal Road, Blackpool.—*From* "*The Manchester Guardian.*"

### Children in Trains

Last summer I travelled in the same compartment as a boy aged about nine. He whined ceaselessly for sweets, conscientiously cleaned the corner windows with his sleeves, trampled his comics and kicked his neighbours' feet. The tense atmosphere relaxed when a young man entered at one of the stations *en route*. With the opening gambit of a broad wink he soon had the boy in thrall and showed him how to fold a sheet of newspaper into a Chinese junk. The child's aptitude was evidently in his hands and he was soon shipbuilding in the grand manner.—*From* "*The Times.*"

### What! No Maps?

(*See letter in our May* 17 *issue*)

When railway carriage elegance
Teams up with cushioned ease,
The status quo adherents still
Seem coy and hard to please,
For deft design and dainty woods,
Delightful to some eyes,
Aren't everybody's cup of tea—
Rather contrariwise.
Some cling to old, familiar friends,
When travelling near or far,
The ads, the photographs, the maps
That tell them where they are.
Deprived of these, what's left for them
To use their eyes upon,
With mileposts counted, slumber fled
And crossword puzzles done?
We feel for those who suffer through
The dread designer's itch,
And grieve as one more household god
Falls headlong from its niche.
Yet hope remains for those who mourn
Lost treasures of the train—
Just let them travel down our way—
They'll meet them all again!

A. B

## Jubilee of the Hampstead Tube

*Train at Golders Green on a business service introduced in* 1911, *with a non-stop run from Hampstead to Euston* (*see editorial note on page* 702)

# OVERSEAS RAILWAY AFFAIRS

*(From our correspondents)*

## RHODESIA

### Livingstone-Zimba Deviations

Deviation works are in progress on the 50 miles of line from Livingstone to Zimba. In all, 11 deviations will shorten the line by just over 1,000 yd., although the total of new construction is 42 miles.

The main purpose is to improve the ruling gradient from 1 in 65 compensated to 1 in 120. This will mean that gross loads of 1,400 tons may be hauled on all the main lines from Wankie to Ndola.

When the work is completed, it will no longer be necessary for three engines to work a train to Chichili, and the siding at Chichili will disappear; nor will it be necessary to double-head trains to Zimba.

Surveys for improvements were carried out as far back as 1931; but apart from two small sections the major works began in 1955.

In the northwards direction the new line leaves the old near Empire Street, Livingstone, and from there to Kananga is entirely new for 15½ miles. Of this the first 8½ miles to Natebe will be double track. It is this section comprising L.Z. 1 and 2 deviations which is now under construction. About 16 miles from Livingstone a curve flattening is still incomplete.

From Senkobo the line is on a new location to Milangu for a distance of six miles; thence there is a further series of deviations to Zimba.

Curves often as sharp as 10 ch. radius have been improved and 30 ch. radius has been used wherever possible. The volume of earth moved totalled 571,000 cu. yd. of cut and 543,000 cu. yd. of bank. An overline bridge of prestressed concrete beams on reinforced concrete abutments is being built at Sackville Street, Livingstone. Provision has had to be made at Livingstone to pass under the line the main outfall from the Livingstone stormwater drainage.

## CHINA

### Survey of Line to Lhasa

Survey has begun of the route for the projected 800-mile railway from Lanchow to Lhasa (Tibet) via Sining. The surveyors will work on the basis of maps produced by aerial survey. The main reason for the railway, which will be one of the highest in the world, is the oil and other economic resources in the Tsaidam swamp. It is understood that the line will pass through the Tsaidam region, which is surrounded by mountains 12,000-18,000 ft. high.

## INDIA

### Railway Rehabilitation and Expansion

Under the technical co-operation programme between the Government of India and the United States, a seventh supplement to operational agreement No. 17—Railway Rehabilitation and Expansion—was signed recently in New Delhi.

Additional assistance is proposed for the purpose of acquiring steel products for the expansion, rehabilitation, and replacement programmes of the Indian railways. Rails are required for several thousand miles of existing track needing replacement and renovation to restore normal train speeds and permit maximum utilisation of rolling stock.

Under this supplementary project agreement, the International Co-operation Administration will make available $10,500,000 of development assistance funds for the purpose of acquiring from outside India 28,400 tons of 90-lb. medium manganese rails; 28,000 tons of 60-lb. rails; 1,050 tons of fishplates for 90-lb. rails; and 850 tons of fishplates for 60-lb. rails. The Government of India will provide, from other sources, for the inland handling and transportation charges of the imported commodities. The Railway Board will be responsible for the general administration and supervision of the project.

## ARGENTINA

### Goods Shed Burnt Out

One of the largest sheds at Retiro Goods Station of the General San Martín Railway was burnt out on May 2. The possibility of sabotage has not been overlooked by the railway authorities.

### Railway Technicians Visit France

Messrs. Alberto Pérez and Dionisio Riccieri Ghidella, of the General Roca Railway, are at present in France to supervise the construction of the 25

## French-Built "Trans-Europe Express" Set

*French National Railways T.E.E. diesel set; the motor coach was built by De Dietrich and the trailer by Brisonneau & Lotz*

*Arrangement of seating, showing refreshment service at seats (see our May 31 issue)*

Alsthom diesel-electric locomotives at present being built in France for that railway.

**Diesel Locomotives from Belgium**

The Ministry of Transport has ratified the agreement signed in 1955 with Siam di Tella of Buenos Ayres for the construction of 50, 1,600-h.p. wide-gauge diesel-electric locomotives by the Belgian firm of Cockerill-Ougrée, under licence from the Baldwin Lima Hamilton Corporation of the U.S.A. The total cost is 53,500,000 Belgian francs and $U.S.A. 446,000. A substantial reduction in cost has been achieved, together with a five-year guarantee for the motors up to a total of 155,343 miles. This guarantee will be made extensive to those of the 51 similar American-built locomotives already in service on the General Roca Railway.

## UNITED STATES

**Burlington "Slumbercoach"**

The roomette-type sleeping car for "coach" or second class passengers, the first of its kind in the United States, which the Chicago, Burlington & Quincy has been running for six months past in its "Denver Zephyr" streamline train between Chicago and Denver, has proved so popular that two coaches of this type are now having to be run in the train. Through the winter the original car carried an average of 29 to 31 passengers nightly out of its total accommodation of 34 berths, and on 25 per cent of the runs to date there were more applications for sleeping rooms than could be accommodated. The additional fare charged is $7·50.

On the competing "City of Denver," the Milwaukee and Union Pacific Companies have been providing similar accommodation, at the same supplement, in 21-roomette cars of the kind normally provided for first class passengers only, but claim that the service has not met with the expected response. Their roomettes for second class passengers have been withdrawn.

**Diesel Storage in Winter**

During the period last winter when Lake Superior was frozen over, and shipping suspended, the Erie Mining Company, which operates its own 74-mile line from its taconite plants in Minnesota down to the lake, hit upon a novel plan to keep its 27 diesel locomotives from freezing up. The railway has a tunnel 1,800 ft. long, and the units were run into this, after which the two ends of the tunnel were sealed, and hot air heaters were installed to keep the tunnel temperature up to 40° F.

## FRANCE

**Suggestion Scheme**

Although the number of staff suggestions received by the various Regions of the S.N.C.F. in 1956 did not attain the record figures of 1955 when 2,266 were received, the number receiving awards was increased, nearly 5,000,000 francs (£5,000) being paid out in this way.

In the all-line competition, the suggestion judged to be the best was one by a foreman in the Mechanical Engineering Department, a design for an automatic valve which enables a compressed air circuit to be remotely controlled.

**Level Crossing Protection**

Reference has been made from time to time to the provision by the S.N.C.F. of train-operated lights and lifting half-barriers at level crossings. It has been announced that this type of equipment is now installed at 1,000 level crossings and is proving eminently satisfactory.

**Reduction of Staff**

During 1956, the shrinkage of staff, which has been a noteworthy feature of S.N.C.F. operations since 1950, continued even though at a somewhat slower rate. In October, 1950, the total number of employees was 445,059. The number of staff in October, 1956, totalled 364,655 in comparison with 369,487 in October, 1955. This reduction of staff was coincidental with a considerable increase in traffic: *tonne*-kilometres increased from 46,800 millions in 1955 to 50,300 millions in 1956.

## Publications Received

*Trains Illustrated Summer Annual.* Edited by G. Freeman Allen, London. Ian Allan Limited, Craven House, Hampton Court, Surrey. 9¼ in. × 7 in. 64 pp. Illustrated. 4s. 6d.—This new annual is intended as a companion to the winter *Trains Annual* but has been kept lighter in tone as befits a book for summer reading. R. S. McNaught contributes an essay on engine chimney styles which could be read with profit and amusement by the most inveterate opponent of steam traction. J. N. Faulkner discourses on the peculiarities of timetables in the U.S.A. and P. Ransome-Wallis writes with his usual authority on the handling of summer traffic to the Kent coast. Cecil J. Allen describes routes to the Continent. Other articles deal with the Isle of Man railways, a footplate trip on the "Thames-Clyde Express," the Kyle route to the Isles, the Cornish china clay traffic, and the railways of Coras Iompair Eireann. The many illustrations are well chosen, but unfortunately are not always well reproduced.

*Institute of Materials Handling Handbook.*—A booklet, prepared by the Institute of Materials Handling to give all the background information that anyone unfamiliar with the work of the Institute might be likely to require, has been issued in connection with a recruiting drive for increased membership. The ways in which the Institute seeks to ensure the technique of handling keeps pace with modern demand are shown in the booklet. Steps are now being taken to devise and impose means for testing the qualifications of candidates for admission to membership, to raise the status of all those concerned. Besides setting out all the rules, the structure and the aims of the Institute, the booklet defines materials handling and deals with the function of the materials handling specialist. Copies of the booklet may be obtained from: The Institute of Materials Handling, 20-21, Took's Court, Cursitor Street, London, E.C.4.

*"Indian Railways" Annual,* 1957. New Delhi, Post Box 467. 10¾ in. × 8¾ in. 246 pp. Paper covers. Illustrated. Price Rs. 4.—The annual number of the official journal *Indian Railways* contains messages of goodwill from the Minister of Railways, Sagjivan Ram, and others, and articles on railway developments and problems in India by the Chairman of the Railway Board, Mr. P. C. Mukerjee and leading railway officers. In addition, there are contributions from other countries by a number of railway officers and industrialists associated with Indian railways as former officers, or as technical advisers, or as principals or senior executives of firms which supply railway material to India, by the General Managers of foreign railways, and others. The great number of items necessarily restricts their scope and usefulness. Among the more notable articles of a technical nature are "British Pioneers of Steam and Electric Traction," by Sir George Nelson, Chairman of the English Electric Co. Ltd.; "Electric Traction for Railways," by Mr. J. H. Cansdale, of the British Thomson-Houston Co. Ltd., and "The Case for Diesel-Hydraulic Locomotives," by Mr. L. G. Copestake, of the North British Locomotive Co. Ltd., and "Pioneering Efforts in Train Lighting and Air Conditioning," by Mr. W. J. Ruston, of J. Stone & Co. Ltd.

*S.N.C.F. General Information,* 1957. This 20-page booklet, obtainable free from French Railways Limited, 179, Piccadilly, W.1, contains useful information on French National Railways fares and tickets, reservation of accommodation, conveyance of baggage, Customs and other formalities, the S.N.C.F. self-drive car hire service, and the transport of motorcars by rail (including the new Boulogne-Lyons "car-sleeper" express). Some well-reproduced photographs depict the interiors of coaching stock, showing the amenities provided in ordinary S.N.C.F. first and second class side-corridor compartments, second class *couchettes,* the Wagons-Lits Company "special" (22-compartment) sleeping cars, S.N.C.F. reclining chair cars, and "Trans-Europe Express" diesel trains.

# Catering for Increased Indian Steel Production

*Doubling of lines; new type of 65-ton hopper wagon*

*Remodelled Burnpur passenger station*

THE Indian Iron & Steel Company intends to raise the output of its works from the present level of 300,000 to 804,000 tons a year by the end of the second Five Year Plan period in 1961. The South Eastern Railway, on which the works are situated is mainly responsible for feeding the works with raw materials and for transporting the finished products to the consuming centres. It has arranged to move to the steelworks over 2,200,000 tons of iron ore and 600,000 tons of limestone a year, quantities from 2 to 2·75 times larger than the present annual traffic. The raw materials for the steelworks from the Singbhum area are railed by the double-line section via Sini-Kandra to Anara marshalling yard, but onwards they are hauled in block rakes for about 20 miles over a single line to Burnpur.

### Increasing Line Capacity

This single-line section is already working to capacity and could not handle this extra traffic; additional line capacity had, therefore, to be created. Provision of additional intermediate block stations was ruled out as the existing ones are only between two and four miles apart, and it was therefore necessary to double this section. Work on this doubling began in 1953-54 and its estimated outlay is £1,215,000. Only the three mile section from Garhdhrubeswar to Joychandipahar and another over the Damodar bridge now remain for the whole to be completed. The capacity of the marshalling yards at Anara and Burnpur has also been increased.

Though it will not affect the capacity of the section initially, the doubling of the Damodar bridge and its approaches, a very expensive job, is still under investigation, but the possibility of using automatic signalling over the bridge to cut down the time taken over the block section is being examined.

Coal from the group of collieries served by Radhanagar also passes over this section, but has hitherto had to reverse at Damodar station. A spur line has therefore been built from east of the Damodar bridge towards Radhanagar, avoiding Damodar station, to provide through running from Radhanagar to Anara and vice versa. This spur and the existing single-line section over the Damodar bridge have necessitated the provision of five signal cabins in this locality. Among the station yards which have been extensively remodelled and enlarged are Anara, Ramkanali and Burnpur. The station building at Burnpur has also been extended and remodelled at an approximate cost of £7,500.

### Sixty-Five Ton Hopper Wagon

The Indian Iron & Steel Company also proposes to take its entire iron-ore requirements from Gua on the Rajkharswan-Gua branch of the South Eastern Railway. To move the large quantites of ore rapidly, the railway has specially designed a new type of side-discharge hopper wagon with a carrying capacity of 65 tons. It is proposed to move this special-type stock in block rakes from the mines to the works and back, and so improve turnround and obviate waste of wagon-hours. These wagons will be fitted with automatic central buffer-couplers to enable goods trains of 3,000-tons gross load to be handled with more powerful engines. Editorial reference to these developments is made on another page.

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MID-DAY SCOT DERAILED.—The 1.30 p.m. "Mid-Day Scot" from Euston to Glasgow Central was derailed near Uddingston Central Station, Scottish Region, about 9.30 p.m. on June 17. One passenger was stated, as we went to press, as having been killed, and a number injured. The accident is understood to have taken place about 300 yd. outside the station, and the derailed vehicles are reported to have hit goods wagons standing on an adjoining track.

*Old type hopper wagons loaded with ore*

# Conversion from Plain to Tapered Roller Bearings

*British Timken collaborates with staff of the Carriage & Wagon Engineer, Eastern and North Eastern Regions, in fitting East Coast main-line stock*

ELSEWHERE in this issue details are given of the inaugural double run performed on June 17 by the "Morning Talisman" between London and Edinburgh. All coaches on this train are fitted with Timken tapered roller bearings, and the run possesses special interest as the train sets working these services consist of vehicles on which was performed the first conversion from plain to tapered roller bearings carried out on passenger rolling stock in this country. Fitting, which was supervised by British Timken service engineers, was carried out during April and May, the entire conversion of two "Talisman" sets having been completed by early June.

The project was originated early this year by the Eastern and North Eastern Regions of British Railways, having regard to the high speeds proposed for the "Talisman" service during the double trip of 786 miles a day during the summer. It was felt that roller-bearing axleboxes would ensure high-speed reliability and eliminate servicing attention of bearings during the short turnround time available.

Special design problems were involved. Each train consists of British Railways standard coaches plus open seconds, a twin-articulated dining set (used at one time in the prewar "Coronation" train) and a kitchen car of Eastern and North Eastern Region design.

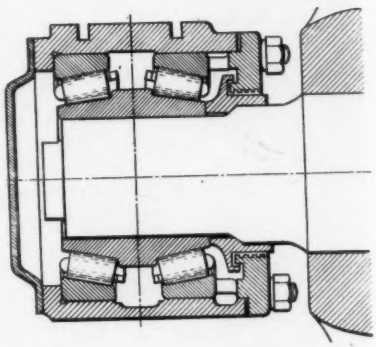
Differently-designed bogies are possessed by each of these types of rolling-stock: those on the standard coaches are of British Railways design; Eastern and North Eastern heavy-type bogies are used on the articulated sets and kitchen cars; and the open seconds have light-type bogies, also designed by the Eastern and North Eastern Regions.

Each type of bogie has its own arrangement of axlebox guides and spring gear and its own dimension of plain bearing journal and plain bearing axlebox. For example, the British Railways plain journal size is 9 in. × 4⅝ in., whereas the Eastern and North Eastern Region heavy bogie has a plain journal size of 10 in. × 5 in.

### Basic Design

Close collaboration with the design staff of the Carriage & Wagon Engineer, Eastern and North Eastern Regions, resulted in a single scheme of Timken tapered roller bearing axlebox, basically common to all three bogie designs. A common journal design, 4½ in. in dia., was agreed, and existing wheelsets used with journals turned down to take roller bearings. A standard dimension of 8¾ in. across guides was adopted to agree with the existing dimension on plain bearing axleboxes for each type of bogie. No modification of any frame details or spring gear was required, apart from the introduction of ⅜-in. thick packing plates between horn block and bogie frame on the standard British Railways' bogie.

The diagram shows that a Timken dual race bearing with 4½-in. bore and outside dia. of 7$\frac{15}{16}$ in. was used. This design is suitable for handling any combination of radial and thrust loads met in high-speed service. The axlebox body is in cast steel to B.S.S. 592 Grade C, and assembly designed for grease lubrication. A British Timken-approved lime base No. 3 consistency grease will be used on the high-speed application, and it is expected that wheelsets will run for long periods without intermediate lubrication attention.



*Timken tapered roller bearing axlebox as used on "Talisman" train sets*

As worked out by the Eastern and North Eastern engineers, the scheme permitted bogies equipped with plain bearings to be withdrawn progressively from service. Axles were machined to take the roller bearing axleboxes, which were then mounted and the roller bearing-equipped wheelsets replaced under the bogie. The bogie was then placed back in service.

The first 20 units of the total order for 240 of these Timken axleboxes were available for mounting in April this year.

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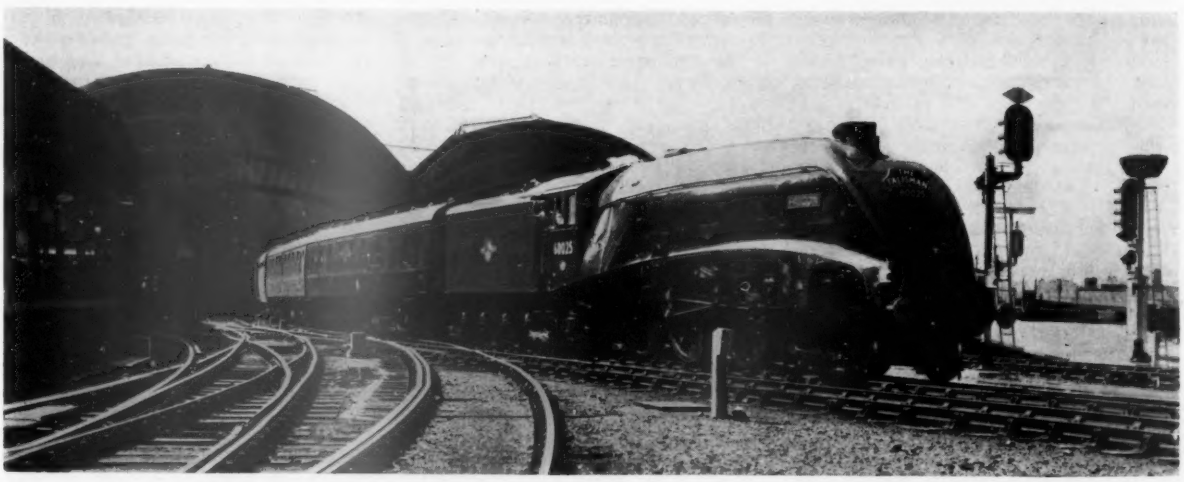
GARSDALE STATION REPAIRS.—A new waiting room and booking hall is to be built at Garsdale Station, on the London Midland Region Settle-Carlisle section of the main line from St. Pancras to Scotland.



*The northbound "Morning Talisman," fitted with roller bearings, passing through York on its inaugural run on June 17 behind No.* 60025 "*Falcon*," *a Gresley "A.4" Pacific*

# Kings Cross Road Motor Repair Depot

*Barrel vault roofing gives clear floor area of 20,000 sq. ft.*

*One of the 50-ft. inspection pits for mechanical horses, with wall-mounted oil and high-pressure grease hose reels*

BRITISH RAILWAYS, Eastern Region, have opened a new depot at Battlebridge Road, Kings Cross, for the maintenance of some 400 motors and 750 trailers engaged on collection and delivery services, as well as other types of mobile equipment. The new depot replaces one seriously damaged by enemy action during the war and the opportunity has been taken of providing a building which not only meets current needs but will be able to cater for any further expansion of the Kings Cross cartage fleet.

The main factor in the design of the depot was the need for a building with the minimum of future maintenance and an unrestricted floor area of approximately 20,000 sq. ft. in the main shop, with good natural lighting. This led to the adoption of a structure consisting of a shell concrete barrel vault roof supported on columns situated within the plane of the external walls. There are seven barrels each 38-ft. 6-in. wide, spanning 77 ft., with continuous roof glazing at the crown of each barrel. The shell thickness varies from 3 in. at the apex to 1 ft. 3 in. at the valley beams and the main columns are 12 in. × 15 in., carried on mass concrete foundations to a depth of approximately 15 ft. below floor level. The necessary stability is provided by ground beams at floor level and spandril beams at a height to give 14 ft. clear for openings.

On the east side, where there are no openings for vehicles, the ground beams are raised to windowsill level and the area between the sill and spandril beam is filled with vertical patent glazing. Expansion joints are provided at both ends of the main shop. The floor and pits are in reinforced concrete and designed as a floating slab with a flexible joint at the perimeter between the slab and ground beams.

The main purpose of the depot is preventative maintenance and the routine inspection of vehicles between overhaul and work is, therefore, confined to general servicing, light mechanical and body repairs, and replacement of major units when required.

### Ancillary Block

Shops for various trades, including battery charging, tyre repairing, tinsmithing, welding, and so on, are provided in an ancillary block sited along the west side of the main shop, in reinforced concrete independently framed. Each shop is sited to relate it to the applicable working area in the main shop. Also in this section is the stores, where some 1,200 different items of fast-moving material are stocked.

Two 50-ft. inspection pits are provided for mechanical horse tractors, each capable of accommodating six vehicles, and six 20-ft. pits, with communicating pit, are available for rigid vehicles. High-pressure grease hoses and points for low-voltage hand lamps are provided at each end of the pits. A special feature is the provision of trolleys carried on rails just below shop-floor level, which enables waste oil to be collected and drained away to a 500-gal. underground storage tank, from which point the oil will be removed periodically for disposal.

A 42-cu. ft. capacity air compressor in a room outside the main building supplies air to 31 points throughout the depot, including five air-operated high-pressure grease pumps which, in turn, feed eight wall-mounted hose reels, 12 greasing points in the pits and one overhead swing arm in a bay. A pressure-controlled electrically-operated pump, situated below floor level in the pit area, delivers engine oil to three wet-hose stand pipes and seven wall-mounted hose reels from a 750-gal. storage tank.

There are three 10-cwt. 20-ft. radius swing-arm jib cranes for lifting major units in the vicinity of the pit block and a fourth crane is situated in the separate store which has been provided for heavy units. Degreasing of parts and units is by means of an air-agitated cold detergent followed by water washing. Material is lifted from ground to tank and tank to wash by a 5-cwt. travelling electric hoist.

### Timber Mill

The timber mill has been provided with a 26-in. dia. circular saw, a 30-in. band saw, a 1½-in. pillar drilling machine and a 36-in. wet grindstone. A cyclone dust extractor outside the building has been arranged to start up as soon as one or other of the two saws is switched on. A paint shop capable of holding three or four vehicles is built within the main shop.

Supervisory staff are accommodated in an office at the south end of the main shop, supported on a reinforced concrete slab cantilevered from the end wall at a height of 7 ft. above the main shop floor. This affords an excellent view over the whole of the floor.

Finishes throughout were selected for their hard-wearing qualities and for economy in maintenance. Externally, the concrete surfaces have been left direct from the shuttering after washing down and the panel walls are of mild stock facings. Internally, the concrete surfaces have been painted with two coats of emulsion paint and the panel walls are of fair-faced sand-lime brickwork. In the main shop, the floor consists of a 7½-in. r.c. slab of 1:2:4 mix with a cement hardener all through.

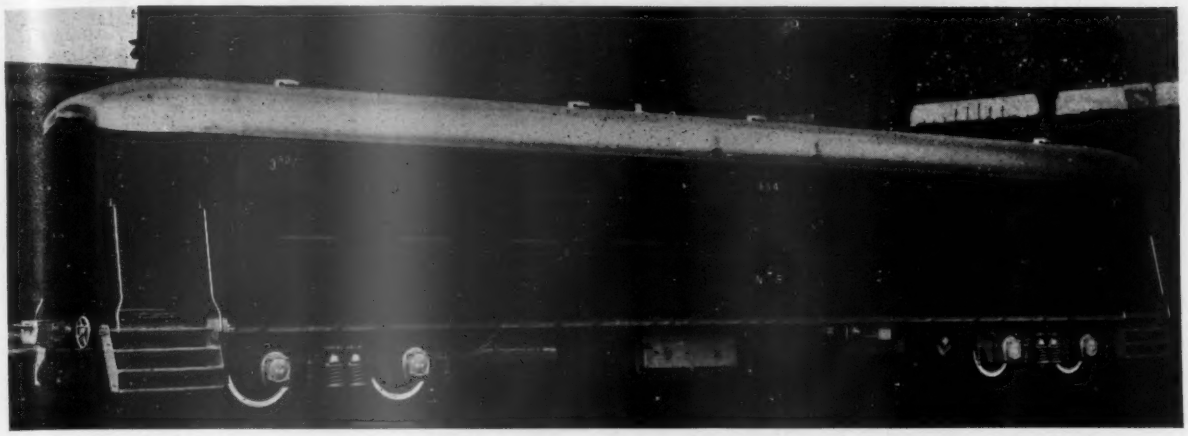
The walls to the entrance lobby, lavatories, cloakroom, and messroom are plastered, with painted finish. The floor to the entrance lobby is paved in terrazzo tiles, lavatories and cloakroom in quarries, and the messroom with thermoplastic tiles. All pits are faced with white glazed wall tiles and tiled dadoes are provided to sinks and lavatory basins. Polished hardwood has been used for joinery to doors and notice boards in the welfare area.

The main shop lighting has been designed to give a high standard of illumination over the working area and consists of continuous runs of cold cathode tubes mounted in a manner to

(*Continued on page* 716)

# Rolling Stock for Nigeria

*Passenger vehicles of integral design, with Timmis bogies*



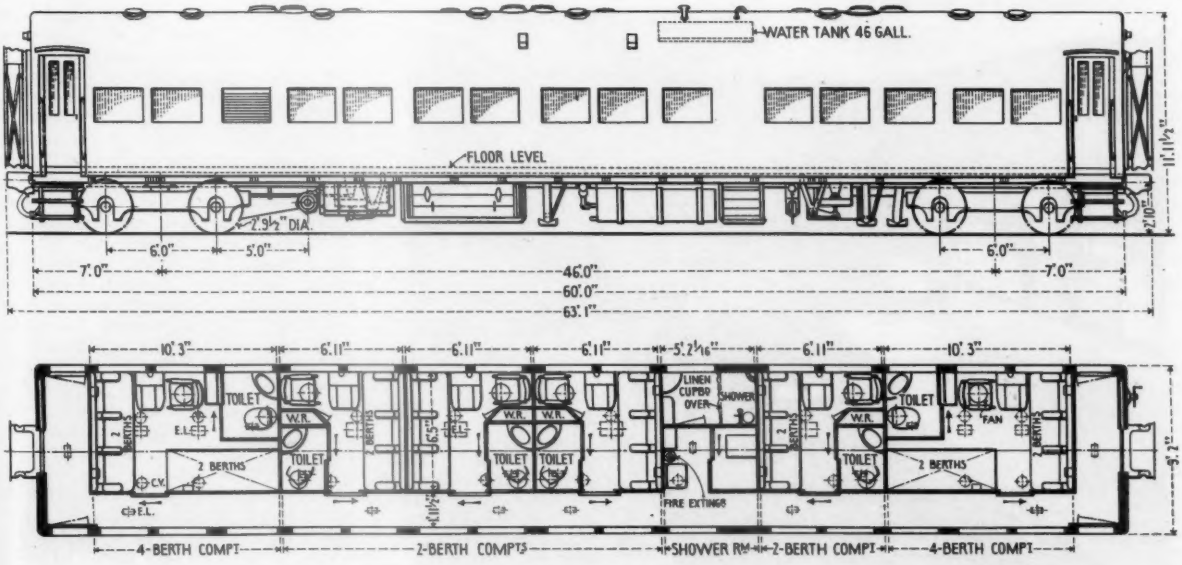
*Nigerian Railway third class car, built by the Birmingham Railway Carriage & Wagon Co. Ltd., showing the springing arrangement of bogies*

A COMPREHENSIVE range of passenger vehicles, including a saloon for the use of the Governor of Northern Nigeria, is being constructed by the Birmingham Railway Carriage & Wagon Co. Ltd., to the design and inspection of the Crown Agents for Oversea Governments & Administrations. Required for the 3-ft. 6-in. gauge Nigerian Railway, the contract consists of the following stock: 76 third class cars; nine brake baggage and third class; six canteen and third class; nine first and second class day cars; two second class sleeping cars; three first and second class sleeping cars; and three first class sleeping cars. Of this order 50 third, six brake thirds, three first class sleeping cars, one first and second class sleeping car, and nine first and second class day cars, and the special saloon, have already been delivered.

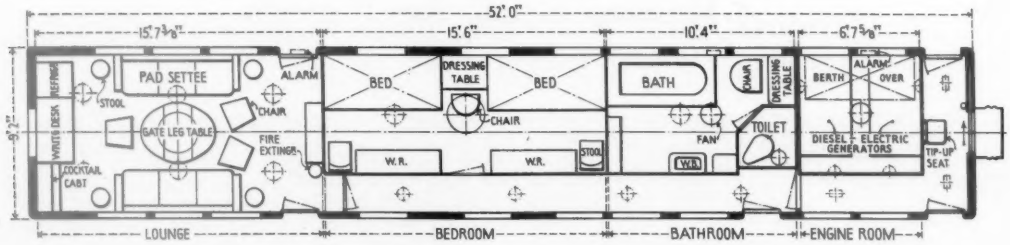
### Integral Structure

All coaches are of all-steel welded construction, the body forming an integral structure with the underframe and, with the exception of the special saloon and the first and second class day cars, which are somewhat shorter, all cars are 63 ft. 1 in. long over couplers. The body pillars are formed of "top-hat" section pressings, to which the $\frac{3}{32}$ in. thick steel body panels are welded. The joints between all bodyside panels and roof sheets are flush welded, thereby providing a completely smooth exterior finish; no exterior mouldings are fitted. The vehicles are mounted on Timmis type bogies with a wheelbase of 6 ft., of built-up riveted construction with pressed-steel solebars and rolled section members; laminated side-bearing-springs and Timmis section bolster springs are incorporated.

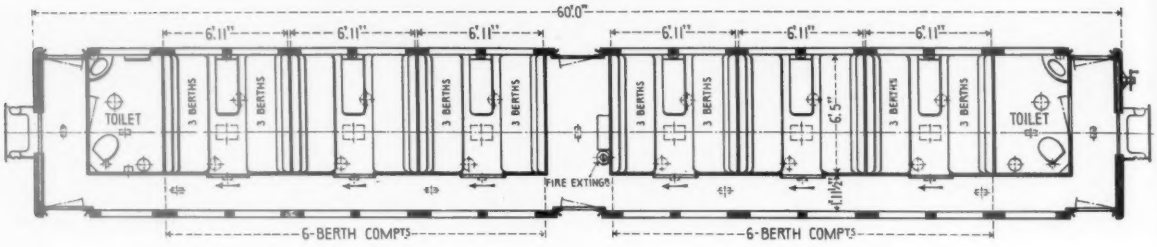
The interior finish of all the types of passenger cars is of modern concept, extensive use being made of Formica plastic veneers bonded either to plywood panels or to the blockboard partitions, with a different colour scheme for class of compartment. Special attention



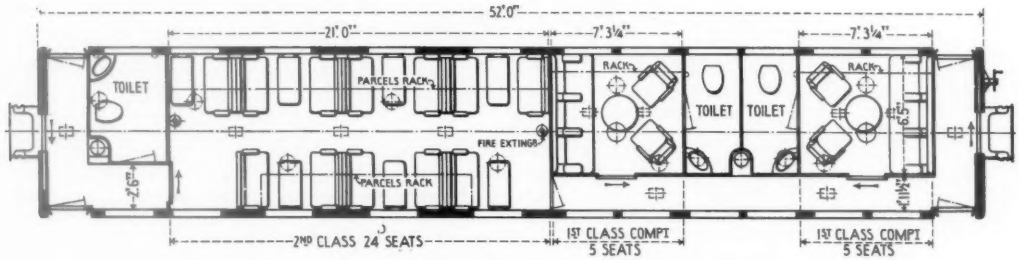

*Elevation and plan of first class sleeping cars, showing principal dimensions and layout*




*Governor's saloon, showing arrangement of accommodation, and engine compartment*




*Arrangement of six-berth compartments in second class sleeping cars*




*First and second class composite day car, showing seating layout*

has been given to the insulation of all passenger stock to prevent heat absorption. Insulwood is used on the body-sides, and Onazote in the roof for the upper class cars, and asbestos blanket in the roofs of third class cars. The insulating materials are secured to the back of the interior finish, with air spaces between the interior finishing, and the outer steel panels.

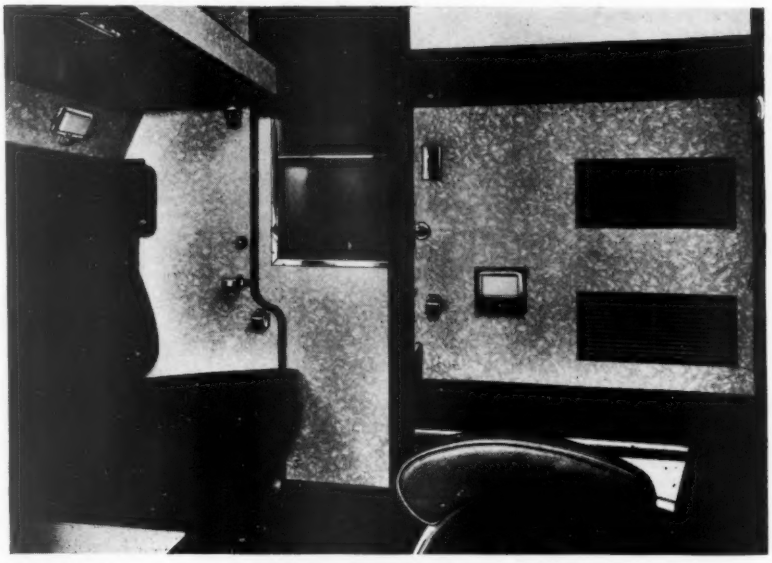
*General view of lounge in saloon, showing the layout and decoration scheme*

The layout of the first class sleeping car comprises two four-berth, and four two-berth compartments, each with a separate toilet. Sleeping accommodation is provided for 16 passengers, with seating for 24 during day travel. A side corridor gives access to the compartments from transverse entrance vestibules at each end of the car. A shower compartment, lined throughout with stainless steel, is located at the centre of the car. Fittings include a plastic shower curtain, cork covered seat, and plastic veneered shelves with mirror above. Adjacent to the shower compartment are cupboards for bed linen and so on, with an attendant's tip-up seat.

Two fixed longitudinal berths are provided in each four-berth compartment, and the transverse seat is also convertible to a lower berth for night use, the armrests being arranged to fold flush with the seat back. A fourth berth above the seat folds down from the cross-partition, and, when not in use folds up flush with the interior finish. The transverse seat accommodates three passengers, and a tubular chair provides total seating for a fourth person when required. Seats and berths are fitted with Dunlopillo cushions, covered in dark green Vynide. Interior metallic fittings throughout have a chromium plated finish.

A hanging cupboard, with full length mirror on the inside of the door, is provided in each compartment. A double-flap hinged table, which can be folded down when not in use is fitted beneath the windows on the bodyside. Ample accommodation for luggage is provided above the corridor and toilet ceilings accessible from the compartment. Each sleeping berth has a separate reading light, and a night-light is provided in each compartment.

The two-berth compartment has the same arrangement of seating, upper berth, chair and table, as in the four-berth compartment, but no fixed berths are provided. Each toilet is fitted with corner washbasin finished to match the colour scheme. A vitreous-enamelled hopper with syphonic flushing action is fitted. The usual fittings, with a wall cabinet and mirror, are provided. Floors in the toilet and shower compartment are laid with terrazzo mottled waterproof flooring to match interior finish, and those in the passenger compartments and corridor have an overlay of green linoleum ¼ in. thick with 7/16 in. thick underfelt.

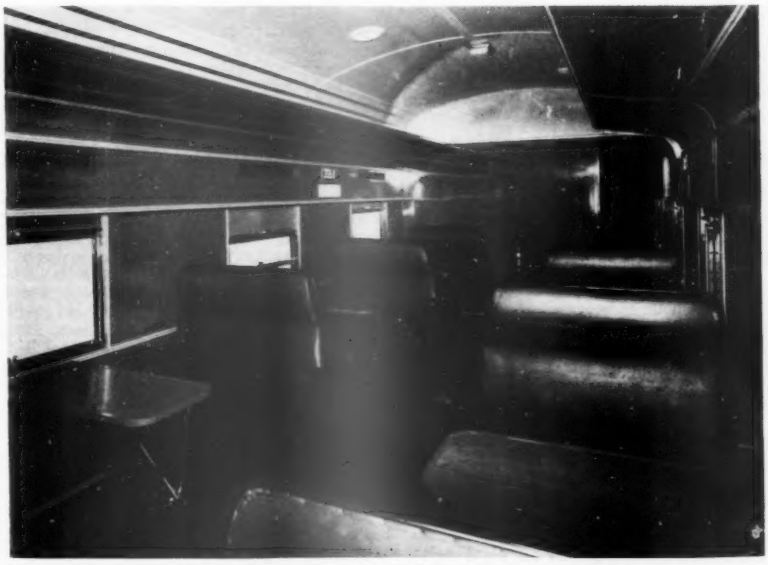


*Four-berth compartment of first class sleeping car, showing arrangement of berths for night travel*

### Interior Finish

The interior of the compartments is finished in Formica which is bonded to plywood panels and blockboard partitions. Mouldings, use of which is reduced to the minimum, are of grooved aluminium, the grooves being picked out in colour to harmonise with the interior decorative scheme. The colour scheme consists of Formica Green Onyx matt from floor to cantrail, with Polar white matt for ceilings. Toilet compartments are finished in Softglow mid-green matt, with ceilings in Polar white matt. All corridor and vestibule walls are lined with walnut Formica, glossy finish. Electrical equipment was supplied by J. Stone & Co. (Deptford) Ltd.

The Governor's saloon, which will be attached to two other coaches which have been built in the railway workshops to provide dining and sleeping accommodation for the staff, comprises a lounge and bedroom, both air-conditioned, a bathroom with separate toilet, and an engine-generator room. Interior finish in the lounge and bedroom is in eucalyptus veneered plywood panelling with walnut bandings. The furniture, which is generally of walnut for lounge, bedroom, and bathroom, has been designed and executed by Fredk. Restall Limited, Birmingham. Furniture includes two upholstered settees covered in cream hide, and fitted with Dunlopillo cushions, three dining chairs in cream hide, folded gate-leg dining table, four stools with floral design Formica top, and a cocktail cabinet, complete with racks and pull-down flap, which, when operated, switches on an electric light. A writing desk is fitted beneath the window at the end of the lounge. A kerosene-operated Electrolux refrigerator of 2¼ cu. ft. capacity is also provided. The floor is covered with a fitted carpet, hand tufted, of Donegal green colour, complete with Dunlopillo underlay. Window curtains of contemporary design are provided to harmonise with colour scheme.

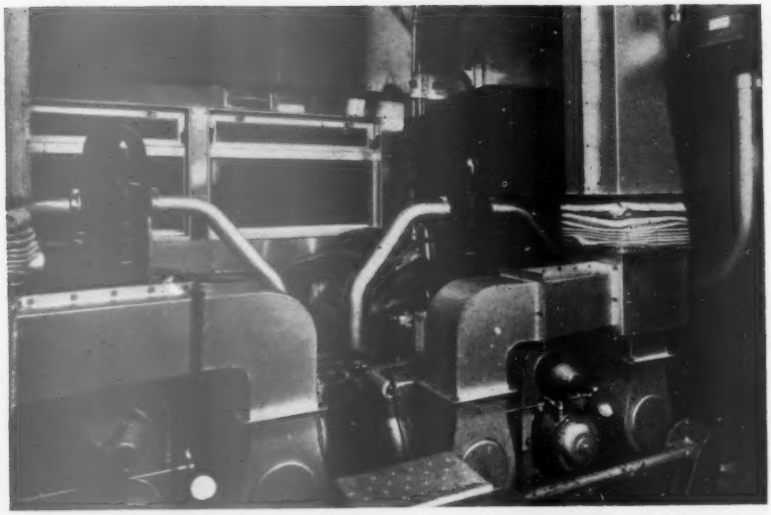


*Interior of first and second class composite car, showing seating arrangements in second class compartment*

### Contemporary Furnishings

The bedroom furniture consists of two single divan beds with Dunlopillo mattresses, two 4-ft. 9-in. wardrobes, and dressing table with fold-down mirror. A tub chair and stools with Dunlopillo cushions upholstered in cream hide are provided. A full length mirror is fitted at each end of the bedroom. The carpet and underlay are the same as those in the lounge. Curtains and bedspreads are of contemporary design to match the colour scheme. The bathroom is fitted with a Canterbury bath and pedestal washbasin with splash back and mirror. Other furnishings include a walnut dressing table with glass top, and wall mirror, and a chair in cream hide. The floor is covered in green linoleum, and plastic curtains are fitted at all the windows.

Cold water only is supplied to bath and washbasin by water raising apparatus; a portable shower is fitted to one of the bath taps. A separate toilet compartment leads off the bathroom and is fitted with an Elsan chemical closet. Walls of both bathroom and toilet are faced with Softglow Formica.



*Engine compartment in the saloon, showing the layout of equipment*

A feature of the saloon car is the self-contained engine room which contains twin sets of diesel engines and generators. Each generator set is capable of dealing with the full load of air-conditioning and lighting. Sets will be used alternately. The equipment is supplied by J. Stone & Co. (Deptford) Ltd., the diesel engines being of the Enfield "100" twin-cylinder air-cooled type of 1,570 cc. The generators are d.c. type XR 32L, 200 amps. 24/32 V. totally enclosed, and are directly coupled to the engine by flexible couplings.

### Air-Conditioning

The air-conditioning is a Stone-Carrier universal compartment type. Each unit comprises cooling coil, heater, air filter, fans, thermostat and temperature control panel, with temperature selection switch. The refrigerator compressor and condenser with motor, forms a unit which is mounted on the underframe. The two air-conditioning units draw air from outside beneath the floor, and discharge through grilles just below ceiling level. Re-circulated air is taken into the unit just above floor level in the lounge and bedroom.

Conditions inside the car are thermostatically controlled, with heating or cooling air depending on the ambient temperature, the transition from one to the other being entirely automatic. Three settings are provided for heating and cooling, either of which may be manually pre-selected. Besides adequate ceiling lighting in each compartment, additional wall plugs for standard lamps are provided in the lounge, together with independent lights above the mirrors in the bedroom and bathroom. Separate bedlights are also fitted over the headboards of the divan beds. A table lamp is provided on the writing table in the lounge. Attendant bell pushes are fitted in convenient positions in the lounge, bedroom, and bathroom.

Imperiston ceiling fans are fitted in the lounge, bedroom and bathroom, and exhaust type fans are fitted in the toilet and engine room. A plug and socket fitting is provided in the lounge for wireless, and in the bathroom for an electric razor. For these points a rotary converter, 180 W. output, 230 V. 50-cycles, input 24 V. d.c. is installed in the engine room.

The following is a list of the principal sub-contractors:—

| | |
|---|---|
| Train lighting and equipment | J. Stone & Co. (Deptford) Ltd. |
| Brake equipment | Vacuum Brake Co. Ltd. |
| Couplers | A.B.C. Coupler & Engineering Co. Ltd. |
| Isothermos axleboxes | Robert Hyde & Son Ltd. |
| Wheels & axles | Owen & Dyson Limited |
| Timmis bolster springs | Turton Bros. & Matthews Limited |
| Laminated bearing springs | Wilford & Co. Ltd. |
| Louvre frames & castings | Lightalloys Limited |
| Rising light gear | Rawlings Manufacturing Co. Ltd. |
| Insulwood insulating board | G. D. Peters & Co. Ltd. |
| Onazote | Expanded Rubber Co. Ltd. |
| Passenger communication | Passenger Communication Company |
| Dunlopillo rubber | Dunlop Rubber Co. Ltd. |
| Water tanks | Keeps Construction Co. Ltd. |
| Toilet equipment | John Levick Limited |
| Tubular chairs | Pel Limited |
| Vynide | Imperial Chemical Industries Limited |
| Plywood & blockboard panels | Edmonton Panel Co. Ltd. |
| Formica | Thomas De La Rue & Co. Ltd. |
| Terrazzo flooring | Venetian Flooring Company |
| Transfers | Tearne & Sons Ltd. |

## Kings Cross Road Motor Repair Depot

(*Concluded from page* 712)

use the reflecting curve of the soffit to the shell. The transformers, electrodes, and capacitors are housed in simple box units on the outside of the roof and the conduit is housed within the 1 in. cork insulation. Lighting in the paint shop is provided by fluorescent fittings and in the ancillary accommodation and welfare block by tungsten filament fittings.

The heating is thermostatically controlled to suit the outside temperatures and is by low-pressure hot water circulated by pumps from oil-fired boilers to unit heaters in the main shop. Fresh air is drawn from the east side by ventilators behind the unit heaters and is re-circulated by the unit heaters on the west side. The pits and ancillary workshops are individually warmed by heating coils and the welfare block by radiators.

A separate exhaust system is installed in the paint shop for the removal of paint fumes from the working area.

The new building was designed by and erected under the supervision of Mr. H. H. Powell, Architect, Eastern Region, under the overall direction of Mr. A. K. Terris, Chief Civil Engineer, Eastern Region. Mr. Powell was assisted by Mr. R. T. Walters, Principal Assistant Architect, Eastern Region; Mr. G. F. Putwain, Assistant-in-Charge, and Mr. W. G. Goodey, Clerk of Works. The main contractor was Holliday & Greenwood Limited.

B.E.T. Omnibus Services Limited Meeting.—At the annual meeting of B.E.T. Omnibus Services Limited on June 3, Mr. J. Spencer Wills, the Chairman, said that revenue had been affected by the bad weather in the summer of 1956 but there was some gain in traffic later during the period of petrol rationing. Higher wages, awarded in November, 1955, applied for the full year and the oil fuel tax had been increased to the "almost incredible" figure of 3s. 6d. a gallon for four months following the Suez crisis. He welcomed the recognition by the Government that fares must be raised without delay to meet this extra cost. The burden of unremunerative services had become heavier than ever as costs mounted and at least half of the services operated by associated companies were being run at a loss. African Transport Co. Ltd. and Rhodesia United Transport Limited, in which the company has substantial holdings, had made great strides and their revenue was increasing. The report and accounts were adopted.

Exhibition at Leicester.—An exhibition dealing with the history of the Midland Railway and the development of Leicester as an industrial town is being held at the Leicester Museum & Art Gallery, New Walk, Leicester, during June and July to commemorate the centenary of the opening of the Leicester-Hitchin line in 1857. The exhibition includes numerous historical relics, paintings, drawings, and photographs assembled from sources all over the country. A series of models of Midland Railway locomotives also is being shown. Lord Hurcomb, a former Chairman of the B.T.C., opened the exhibition on the evening of June 19. The exhibition will be open to the public until July 28 from 10 a.m. to 7 p.m. on weekdays, and from 2-5 p.m. on Sundays. An illustrated catalogue is on sale.

# RAILWAY NEWS SECTION

## PERSONAL

Mr. N. R. Crump, President of the Canadian Pacific Railway, has received the honorary degree of D.C.L. from Bishop's University, Lennoxville, Quebec.

Mr. L. W. Cox, M.Inst.T., who, as recorded in our June 14 issue, has been appointed Assistant General Manager (Administration), London Midland Region, British Railways, was born in Derby in 1903 and educated at Dean Close, Cheltenham. He joined the former Midland Railway as a junior clerk in 1919, and, after experience in passenger and goods station working as a relief clerk, passed through various sections of the Derby Staff Office and joined the Shunting Analysis Commission at Derby. After a period as District Signalmen's Inspector at Westhouses, Derbyshire, he took up a position on the Shunting Analysis Commission centred at Manchester Victoria. In 1933 he was appointed District Signalmen's Inspector, Wakefield, and, in 1935, Assistant District Controller, Leicester. Later in that year he took up a similar position at Lancaster (Western), and, in 1938, was appointed Assistant District Controller, Birmingham (Western). Later in 1938, he became Head Office Inspector, New Works & Signalling, in the Divisional Superintendent's Office, Crewe. During the first months of the last war he dealt with military traffic as a member of the Divisional Superintendent's Emergency Section, Crewe, and later became Assistant Divisional Passenger Controller in the same office. In February, 1943, Mr. Cox was transferred temporarily as District Controller, Liverpool Lime Street, and was appointed permanently to that position in July, 1944. On the reorganisation of L.M.S. District Control Areas in 1945, he became District Operating Manager, Liverpool Lime Street, and in September, 1947, District Operating Superintendent, London (Western). Six years later he was appointed Assistant (Freight Services), Operating Superintendent's Department, and, in June, 1954, Divisional Operating Superintendent, Derby, London Midland Region. Mr. Cox became Chief Operating Superintendent, London Midland Region, on January 1, 1956.

*Mr. L. W. Cox*
Appointed Assistant General Manager (Administration), London Midland Region

Mr. Edward W. Arkle, who, as recorded in our June 14 issue, has been appointed Director of Traffic Services, London Midland Region, British Railways, joined the former L.N.E.R. in 1923 in the Scottish Area. Two years later he transferred to the North Eastern Area, and, after service in the Chief General Manager's office at Kings Cross and in the Goods Manager's office at York, he was appointed in 1929 to be Head of the Works & Docks Section of the District Goods Manager's office, Hull. From September of that year he spent a year on the German State Railways, studying all branches of work in various parts of the country. Thereafter he joined the Traffic & Statistical Section of the Divisional General Manager's office, York, until, in 1933, he was appointed to be Assistant District Goods Manager at Newcastle. In 1934 he became Assistant District Superintendent at Newcastle, and, in 1936, District Passenger Manager, Newcastle. He was appointed Assistant Goods Manager, North Eastern Area, in 1937 and, in 1940, also took over the duties of Assistant Passenger Manager in that Area. He was made Assistant Divisional General Manager, Southern Area, L.N.E.R., in January, 1943; in June, 1945, he became Goods Manager for the Scottish Area of the L.N.E.R.; in 1948, Assistant Commercial Superintendent, Scottish Region and, in 1949, Commercial Superintendent, North Eastern Region, York. He became Chief Commercial Manager, London Midland Region, in January, 1954.

*Mr. E. W. Arkle*
Appointed Director of Traffic Services, London Midland Region

Mr. H. Wilcock, Assistant Carriage & Wagon Works Manager, Eastleigh, Southern Region, British Railways, has been appointed Technical Development Officer, Eastleigh, Carriage & Wagon Headquarters, with effect from June 17, 1957, succeeding Mr. L. I. Sanders, who has been promoted.

The following board changes have been announced by the Brush Group Limited:—

*Resignations*

Sir Ronald W. Matthews, Rt. Hon. Lord Cunliffe, Captain R. C. Petter, Major Noel E. Webster and Mr. Miles Beevor.

*Appointments*

Sir Frank Spriggs, Sir Roy Dobson, Mr. John F. Robertson and Sir Arnold Hall.

*Mr. F. L. Hick*

Appointed Assistant Operating Officer, North Eastern Region

*Mr. C. H. Diggory*

Appointed District Engineer, Shrewsbury Western Region

*Mr. R. W. Rose*

District Commercial Manager, Edinburgh Scottish Region, 1949–57

Mr. F. L. Hick, Assistant to the General Manager (General), North Eastern Region, British Railways, who, as recorded in our May 31 issue, has been appointed Assistant Operating Officer, North Eastern Region, York, joined the N.E.R. at Brafferton Station in 1922, later transferring successively to the Goods Manager's Rates Office at York, the Statistics Office, and, after holding various positions in the Operating Superintendent's headquarters at York, to the District Superintendent's Office at Darlington. In 1939, he returned to York as District Traffic Inspector, subsequently becoming District Signalmen's Inspector, Deputy Chief Controller, and Head of the Operating Superintendent's Special Enquiry Section. In 1945, he was appointed Head of the Freight Trains Section (Eastern Operating) at Liverpool Street and later became Head of the Passenger Trains Section. In 1947, he returned to York as Head of Passenger Trains Section (Operating & Commercial) and, in 1951, was appointed Head of General Section in the Office of the Chief Regional Officer. In 1952, he was appointed Assistant to the Chief Regional Officer (General) which position was later designated Assistant to General Manager (General).

Mr. W. M. Dravers has been appointed to the board of the Devon General Omnibus & Touring Co. Ltd. Mr. P. G. Stone Clark has resigned from the board.

The Tilling Group announces that Mr. L. T. Duncan, at present Traffic Manager of the Southern Vectis Omnibus Co. Ltd., has been appointed Assistant Traffic Manager of the Western & Southern National Omnibus Companies. He will take up his new appointment next month.

Mr. C. J. Fletcher, a director of Chamberlain Industries Limited, is visiting the works of Jenbacher Werke, Austria, manufacturers of the Jenbach compressor for which Chamberlain Industries Limited is the sole agent in this country. During his visit Mr. Fletcher will discuss recent modifications to this machine and will also survey the Austrian market for the sale of the Staffa range of mobile and shop cranes.

Mr. C. H. Diggory, B.Sc.(Eng.), A.M.I.C.E., who, as recorded in our June 14 issue, has been appointed District Engineer, Shrewsbury, Western Region, British Railways, was educated at the Lady Hawkins Grammar School, Kington, and Hereford Cathedral School. He joined the former Great Western Railway in the office of the Divisional Engineer, Gloucester, as a trainee in October, 1929, and, in January, 1935, was transferred to the Chief Engineer's Office, Paddington. After a period in the Survey and New Works Offices, he was engaged on the preparation of drawings for the North Acton to Ruislip electrification and Dawlish avoiding line schemes. In September, 1938, Mr. Diggory was associated with the reconstruction of goods station facilities at Hockley, Birmingham. During the war he was engaged on urgent projects between Newport and Chester, subsequently spending a short period in the District Engineer's Office, Shrewsbury, where he was later appointed Resident Engineer on a number of works in the West of England. Mr. Diggory became Assistant in the District Engineer's Office, Neath, in March, 1945, and, twelve months later, Resident Engineer in charge of extensive railway works in connection with the new steel strip mill at Port Talbot, now known as Abbey Works, and the extension of Margam Wharf in Port Talbot Docks. In November, 1949, he was appointed Assistant District Engineer at Shrewsbury, and in June, 1954, assumed a similar position in the London District. In June, 1955, he was appointed General Assistant to the Chief Civil Engineer, with special duties in connection with the Modernisation Plan. Mr. Diggory was a member of the Electrification Standards Sub-Committee of the Civil Engineering Committee, British Railways. He leaves this position to take up his new appointment.

Mr. J. T. More, who has represented Ransome & Marles Bearing Co. Ltd., in Scotland for the past 35 years, is retiring at the end of this month. From July 1, the company's area manager will be Mr. F. W. Austin, with Mr. E. H. Ward as his assistant. Mr. Austin was formerly Branch Manager at Dundee. These representatives will be based at the new offices at 380, Argyle Street, Glasgow, where extensive bearing stocks are held. Stocks will continue to be maintained at 310, Perth Road, Dundee, under the supervision of Mr. W. L. Driscoll.

Mr. R. W. Rose, District Commercial Manager, Scottish Region, British Railways, Edinburgh, who, as recorded in our June 14 issue, is to retire on the 30th of this month, was educated at Archbishop Holgate's Grammar School, York, and joined the former North Eastern Railway at Micklefield as a Junior Clerk in 1912. In 1915 he joined H.M. Forces; he was commissioned in the Machine Gun Corps, and subsequently transferred to the Royal Flying Corps. He held the rank of Captain (Flight-Commander) on demobilisation, and was awarded the Belgian Croix de Guerre. He returned to railway service in 1919, and was employed at various stations until he entered the Chief Goods Manager's Office, York in the next year. In 1923 he became Secretary of the Light Work Posts Committee, dealing with employment of disabled ex-Servicemen, and in 1928 entered the Staff Section, Divisional General Manager's Office, York, L.N.E.R. Later he dealt with dock staff questions in the District Superintendent's Office, Hull, and, in 1932, became Assistant Yardmaster, Hull West. In 1933 he entered the Superintendent's Office, York, as Salaried Staff Questions Clerk, in 1936, became Assistant Good Agent, Newcastle Forth, and, in 1937, Traffic Agent, Newcastle, New Bridge Street. Later in the same year he carried out all-line special inquiry work. In 1939 he was made Head of Traffic Section, Divisional General Manager's Office, York, and subsequently received appointments as Head of Staff Section, Engineer's Office, York (1940); Head of Works Section, Divisional General Manager's Office, York (1941); Assistant to Locomotive Running Superintendent, York (1943), and Assistant to Divisional General Manager, Edinburgh (1947). On January 1, 1948, Mr. Rose became Assistant to Chief Regional Officer, Scottish Region, and the following year took up the position from which he now retires. Mr. Rose is a member of the Edinburgh Chamber of Commerce, Leith Chamber of Commerce,

Edinburgh Rotary Club, and the Edinburgh City Businessmen's Club.

Mr. W. H. Bowman has been appointed to the board of High Duty Alloys Limited.

Mr. F. Davenport, Assistant to Chief Engineer, Dunlop Rubber Co. Ltd., has been appointed Deputy Chief Engineer at the company's head office in London.

Mr. A. W. Morrison has been appointed a director of Expandite Limited. Mr. Morrison joined the company last year as Technical Manager in charge of Production & Development.

Mr. Ian Wans has been appointed Technical Manager of Modern Wheel Drive Limited. Mr. Wans formerly of Ruston & Hornsby Limited, recently resigned from the Atomic Power Department of the English Electric Co. Ltd.

Mr. C. R. White has been appointed Sales Representative, West End and West London, Mr. J. Hyde, Sales Representative for Norfolk, Suffolk, Cambridgeshire, Huntingdonshire, N. Bedfordshire, and part of Essex; and Mr. G. Rivers, Sales Representative, Hampshire and Surrey, for Dunlopillo.

### Spanish National Railways

The new Council of Administration of R.E.N.F.E. is constituted as follows:—

**Executive Committee**

*President:* Under-Secretary for Public Works.

*First Vice-President:* The Director General of Railways, Tramways & Highway Transport.

*Second Vice-President:* Don José Maria Garcia Lomas.

**Members**

*For Public Works:* Don Luis Usera Lopez González, Don José Maria Aguirre Gonzalo, and Don Joaquin Reig Rodriguez.

*For Finance:* Don José Maria de Lapuerta y de las Poses and Don Enrique Calabia López.

*Director of R.E.N.F.E.:* Don José Maria Puig Batet.

**Council of Administration**

This is made up of the Executive Committee and the following members:—

*For Public Works:* Don Pedro Gonzáles Bueno, Don Carlos Botin Polanco, and Don Andrés Saliquet Zumeta.

*For the Army:* Don Gregorio Bahamonde Tallefert.

*For Agriculture:* Don Lorenzo Justiniano Casado Garcia.

*For Industry:* Don Rafael Rubio y Martinez Corera.

*For Commerce:* Don José Manuel Ibietatorremendia Suárez.

*For Housing:* Don José Luna Menéndez.

*For the Economic Section of the National Delegation of Federations:* Don José Luis Aguirre de Martos.

*For the Social Section of the National Delegation of Federations:* Don Vicente Garcia Ribes.

*Technical Specialists:* Don Eduardo Merello Llasera and Don Manuel Maria Arrillaga y López Puigcerver.

*Technical Specialists in Economics and Finance:* Don Julio Danvila Rivera and Don Andrés Moreno Garcia.

The Government Delegate for the Regulation of Transport and the Director of the Commissariat for Railway Equipment.

Mr. H. J. Northeast, Assistant Sales Manager, Compositions Division, Dunlop Rubber Co. Ltd., has been appointed Sales Manager of that division.

Sardar Hardit Singh Malik, lately Indian Ambassador to France, has been appointed to the board of directors of the Dunlop Rubber Co. (India) Ltd.

### Birthday Honours List

The following is a further selection of Birthday Honours of transport interest:—

*Baronet*

The Rt. Hon. Henry Willink, Member, Eastern Area Board, British Transport Commission.

*K.B.*

Mr. R. P. Biddle, retired Docks & Marine Manager, Southern Region, British Railways. For public services in Southampton.

Mr. F. Pickworth, Chairman, English Steel Corporation Limited.

Mr. W. Sinclair, Director, Dunlop Rubber Co. (Scotland) Ltd.

Mr. E. W. Thompson, Chairman, John Thompson Limited.

*C.B.*

Mr. D. O'Neill, Under-Secretary, Ministry of Transport & Civil Aviation.

*C.B.E.*

Mr. W. D. Farrington, Chief Inspecting Engineer, Office of Crown Agents for Oversea Governments & Administrations.

Mr. E. W. Godfrey, Assistant Secretary, Ministry of Transport & Civil Aviation.

Mr. C. G. Harrison, General Manager & Chairman, Railway & Port Swettenham Boards, Malayan Railway, Federation of Malaya.

Mr. S. M. Pechey, S. Rhodesia Representative on the Government Board of Rhodesian Iron & Steel Company.

Mr. J. Wright, Director, Dunlop Rubber Co. Ltd.

*O.B.E.*

Mr. P. F. Barrett, Under-Secretary, Ministry of Transport & Works, Federation of Rhodesia & Nyasaland.

Mr. L. G. Child, Principal, Ministry of Transport & Civil Aviation.

Mr. C. Coates, Assistant Director, Finance, Ministry of Transport & Civil Aviation.

Mr. S. E. Coppen, Senior Engineer, Mechanical Engineering Department, Office of the Crown Agents for Oversea Governments & Administrations.

Mr. E. Whitworth, I.C.I. Limited, Nobel Division, Ardeer.

Mr. R. H. Williams, Senior Railway Employment Inspector, Ministry of Transport & Civil Aviation.

Mr. K. F. W. Woods, lately Chief Engineer, Iraqi State Railways.

*M.B.E.*

Mr. T. H. Arnold, Hadfields Limited.

Mr. A. W. Astling, Higher Executive Officer, Ministry of Transport & Civil Aviation.

Iman Bakash, Head Clerk, District Engineer's Office, Eldoret, East African Railways & Harbours Administration.

Mr. A. A. Brake, Assistant Secretary, Aldershot & District Traction Co. Ltd.

Mr. A. Ferguson, Assistant Engineer, Belfast Corporation Transport Department.

Mr. H. B. Hobbins, Higher Executive Officer, Office of the Crown Agents for Oversea Governments & Administrations.

Mr. H. Rusby, Design Engineer, Metropolitan-Vickers Electrical Co. Ltd., Sheffield.

Mr. T. C. W. Tippin, Senior Marine Engineer, East African Railways & Harbours Administration.

Miss Alice M. Todhunter, Higher Executive Officer, Ministry of Transport & Civil Aviation.

Wali Mohamed Talab s/o Talab, Tugmaster, East African Railways & Harbours Administration.

Mr. E. G. Webber, Higher Executive Officer, Ministry of Transport & Civil Aviation.

Mr. R. G. Winton, Director & Technical Manager, Lansing Bagnall Limited.

*B.E.M.*

Mr. E. Auty, Workshop Inspector, B.T.C. Waterways, Goole.

Mr. J. Cunningham, District Motive Power Inspector, Scottish Region, British Railways.

Mr. A. C. Pincott, Laboratory Superintendent, Turbine Systems Development, Plessey Co. Ltd.

Mr. R. Weir, Signalman, Special Class, London Midland Region, British Railways.

The Ministry of Transport & Civil Aviation announces that the Secretary of the Transport Users' Consultative Committee for Scotland is Mr. J. Reid. His address is 23, Waterloo Place, Edinburgh, to which all enquiries should be made. Telephone: Central 2477, ext. 202.

### Transport Users' Consultative Committee

Captain W. H. Coombs has been appointed Chairman of the new Committee for East Anglia of the Transport Users' Consultative Committee, Mr. F. E. Tyler has been appointed Secretary, and the following have been appointed Members:—

*Representing Agriculture*

Messrs. A. L. Fawkes, W. Inskip, R. R. Harvey.*

*Representing Industry*

Messrs. A. C. Maton, L. A. Carey.

*Representing Commerce*

Mr. R. V. Pohlman, Mrs. B. E. Double.

*Representing Shipping*

Mr. M. O. Gill.

*Representing Labour*

Messrs. W. J. Bird, J. A. Cook.*

*Representing Local Authorities*

County Aldermen P. J. Watts and F. H. Easton, Alderman R. P. Braund,* County Councillor W. E. McNamara.*

*Representing the B.T.C.*

Messrs. L. H. Balls, F. G. Crabb.*

*Additional Member*

Mrs. M. H. Neal.

* Indicates new member

### Institute of Transport

Newly-elected officers and Committee of the Metropolitan Section of the Institute of Transport are as follows:—

*Chairman*

Mr. C. F. Klapper, *Modern Transport*.

*Immediate Past Chairman*

Mr. Alex J. Webb, L.T.E.

*Vice-Chairmen*

Messrs. S. G. Hearn, Western Region, British Railways; A. Watson, Chamber of Shipping; W. L. Ives, B.T.C. Waterways.

*Hon. Treasurer*

Mr. A. R. Parselle, Ministry of Food.

*Hon. Secretary*

Mr. C. F. King, Bryant & May Limited.

*Committee*

Messrs. S. A. Fitch, Southern Region, British Railways; L. W. Cox, L.M. Region, B.R.; B. H. Harbour, L.T.E.; J. L. Willoughby, B.R.S.; G. F. Fiennes, Eastern Region, B.R.; G. E. Staves, B.T.C. Docks; J. F. Parke, *Modern Transport*; R. L. F. Woodhouse, Union International Co. Ltd.; L. S. Pagan, S.P.D. Limited; A. J. Wright, B.R.S.; F. C. G. Mills, W. H. Martin Limited; R. E. G. Brown, Traders Road Transport Association; G. Yorke, L.T.E.; S. A. Fricker, Glen Line Limited; F. D. M. Harding, Pullman Car Co. Ltd.; M. Ormerod, S.P.D. Limited; R. M. Robbins, L.T.E.; E. G. Whitaker, Unilever Limited; W. M. Dravers, B.E.T. Co. Ltd.

# NEW EQUIPMENT AND PROCESSES

## Electric Shaving Equipment

AN automatic electric shaver operating on the slot-machine principle has been developed for use in the lavatories

of railway stations, hotels and similar establishments.

The razor, which is of the rotary-action type, is attached to a wall-mounted cabinet. A 6d. coin allows a shave of 5 min. duration. The shaver is automatically disinfected after use.

In this country, the equipment can be supplied free of charge, and will be fully guaranteed and regularly maintained and serviced, the proprietor of the establishment receiving a percentage of the takings; alternatively, the machine can be purchased outright.

The price of the equipment is £36, and delivery is immediate. The manufacturer is Partwest Limited, 50, Mount Street, London, W.1.

## Fireproof Shutters

A SAFETY curtain to prevent the spread of fire is provided by fireproof roller shutters; applications include buildings containing combustible material, such as trimming shops, paint stores, and so on.

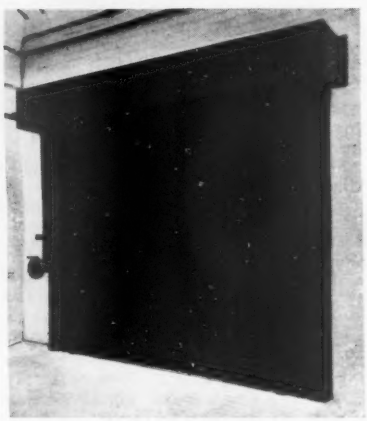
The shutter is constructed of 18-gauge C.R.C.A. steel strip. Each lath has malleable cast-iron flame-proof end locks secured by two ⅛-in. rivets. The shutters are of two types, manually operated or mechanically operated through gears.

They are designed to have the maximum opening size permitted by the Fire Offices Committee and the London County Council, that is 8 ft. wide or 7 ft. high with an opening area of 56 sq. ft. for hand-operated shutters; and 14 ft. wide or 12 ft. high with an opening area of 144 sq. ft. for the mechanically-operated type. For larger openings than these no restrictions are imposed.

Rollers are constructed of 5½-in. dia. weldless steel tubing and fitted with self-aligning ball or roller bearings, rotating on a 1-in. or larger axle. Springs are of the double helical type and totally enclosed in the roller. Counter-balancing of the springs ensures operation of the shutters with a minimum of effort.

A fusible link, fitted under L.C.C. regulations, is set to melt at 155°F. This operates the patented mechanism of a drop bar, running in an auxiliary channel, which causes the shutter to drop automatically and seal off the opening. A new link can be quickly fitted.

Delivery and price details may be obtained from the manufacturer, Adam & Lane & Neeve Limited, Falcon Works, Copperfield Road, Mile End, London, E.3.



## Compact Wire Rope Cutter

A SMALL portable cutter, the Tullcon, designed for shearing through wire ropes is of application for the preparation of wire rope lifting tackle and so on. This unit, which is of light weight, will cut all kinds of wire rope cleanly and without distortion up to the capacity of the cutter used, the shearing force being applied with a heavy hammer, a few sharp blows severing the rope.

The Tullcon cutters are made in three sizes, having capacities of up to ⅝ in., 1 in., and 1½ in. rope dia. The weight and dimensions of the units are 11 lb., 4 in. × 6½ in.; 21 lb., 7 in. × 7 in.; and 36 lb., 9 in. × 9 in. respectively.

The body of the cutter is of malleable iron, the cutter ram of a high tensile steel, and the cutting blade, which is replaceable, of a tough steel, hardened and tempered. The body paint finish is stove-dried, the ram being finished in gun-metal.

Operation of the cutter is simple. The wire rope, having been marked off to the required length, is served on both sides of the cutting point, using stout twine, wire or strong adhesive tape. It is placed in the cutter with the blade resting on the spot to be cut. The ram of the cutter is then struck smartly with several blows from a heavy hammer or sledge hammer, the rope being cut cleanly. When required, replacement blades can be quickly changed using only a hammer and punch.

The price of the three sizes of cutters is £5 5s., £8 8s., and £12 12s. Spare blades will cost 15s., £1, and £1 5s. for the respective units. Delivery of all items will be

from stock. The manufacturer is the Tulloch Construction Co. Ltd., Farringford House, Brighton Road, Sutton, Surrey.

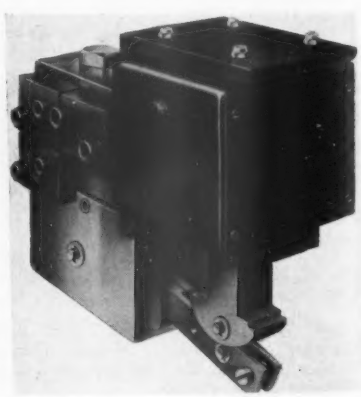
## Hydraulic Control Valves

OF use for controlling hydraulic machinery engaged, for example, in such work as tube bending, spring compression, rail cradle stamping, and maintenance depots, is a range of control valves which have been recently introduced.

Designed to meet many different control requirements, valves of this new range may be operated by hand, foot, solenoid, air cylinder, air diaphragm or hydraulic cylinder. Easy conversion from one method of operation to another is possible. No setting is required when reassembling a valve after maintenance and arrangement can be made for manifold mounting.

The valves are suitable for standard pressures of up to 2 ton per sq. in. but for some services they can be used with pressures of up to 3 ton per sq. in.

The manufacturer's standard features for



the minimum of maintenance are incorporated in the design, including self-honing seats and arrangements for preventing scoring of seats and stems.

Operating handles are interlocked to prevent wastage of pressure fluid by ensuring that exhaust and inlet ports are not open at the same time. The design permits safe interlocking with machine guards.

Delivery for the ⅜-in. size is eight weeks, and 16 weeks for all other sizes. Details of price of the valves may be obtained from the manufacturer, George Ellison Limited, Perry Barr, Birmingham.

## L.T.E. Bus Automatic Gearbox

London Transport will shortly bring into experimental service a second type of fully-automatic gearchanging equipment. This will be fitted in the prototype Routemaster Green Line coach; the first type is in the first prototype Routemaster bus due to replace trolleybuses in 1959 and become the standard design.

Experiments with automatic gear control began in 1937, when a type of autogearbox was fitted in an "STL" type vehicle. Further development of the equipment was interrupted by the outbreak of war in 1939, when some designs were in hand for a set of equipment suitable for application to the "RT" type (the present standard design) which was then coming into use in the London Transport fleet.

### Loss of Torque

In the course of the trials of the automatic system mentioned above a disadvantage in the gearbox became apparent. This was the sudden change from one gear to another and the loss of torque during the transition. It was evident that smooth gear changes would be obtained only from a gearbox embodying a continuous traction, or sustained torque, feature. Arrangements were therefore made after the war, for the design and manufacture of a gearbox with the sustained torque feature, four "RT" double-deck buses being fitted with these semi-automatic gearboxes and put into service in 1948-49 for test purposes. One of them was further modified to have full automatic operation for trials, but was not operated in service in that condition.

With the introduction of the advanced design Routemaster, development work was resumed on the application of automatic control to the direct selection continuous traction gearbox which has been specified for this vehicle. The main requirements now are that automatic control shall apply to the second, third and top gears when the gear selector lever is in top gear position, and that it shall also be possible for the first, second and third gears to be engaged by direct manual selection with the same lever. Direct manual selection of first, second, or third gear provides for engine braking when required, and also enables the driver to remain in one of these gears at will to suit particular operating conditions.

Two alternative systems are being developed, the first in conjunction with Self-Changing Gears Limited, and the second with C.A.V. Limited; both the systems now undergoing trial are of similar basic design comprising three main components. These are a control panel which energises solenoids to operate the gear-changing valves in the gear box, an electric generator driven from the output shaft of the gear box and a multi-position electrical switch actuated by the accelerator control.

## Permanent Way Institution Summer Convention

*Inspection of relaying work and visit to steelworks*

The annual summer convention of the Permanent Way Institution was held at Morecambe on June 1-6 under the presidency of Mr. J. Ratter, Technical Adviser, British Transport Commission. Some 250 members and ladies attended, representing all home sections, and also members from Nigeria.

At the general meeting in the Floral Hall at Morecambe on June 1, the Mayor of Morecambe & Heysham, Councillor Mrs. S. L. Birkett, welcomed the members and said she trusted the conference would be a success, and the President expressed thanks.

The Secretary, Mr. H. Janes, reported on the activities of the Institution since the winter general meeting in January. The number of additional members enrolled this year totalled 311, made up of eight fellows, 60 associate fellows, 28 members, 200 associate members and 15 students. Section meetings throughout the country were being maintained to standard, while the sections abroad continued to flourish. The demand for the revised textbook "British Railway Track" was good, and many copies were in demand.

The Hon. Treasurer, Mr. L. Starks, presented the statement of accounts and balance sheet. These showed that receipts and expenditure remained fairly constant, and there was a surplus of £259 on the year's working. This sum had been transferred to the general reserve fund. Donations and collections for the Benevolent Fund amounted to £74.

Mr. Ratter said that for next year's convention the Council recommended the acceptance of the invitation from the Bristol Section to hold the 1958 summer meeting in that area, with headquarters at Weston-super-Mare. Subject to confirmation the date would be June 7-12, 1958.

After routine business had been dealt with, Dr. R. W. Smithies, Personal Assistant to Chief Civil Engineer, London Midland Region, British Railways, gave a paper entitled "Permanent way ballast—its use and purpose."

### Annual Summer Dinner

The annual summer dinner took place at the Arcadian Restaurant, Morecambe, on the evening of June 3 when the President, Mr. J. Ratter, presided. Among the guests were the Mayor of Morecambe & Heysham, the Mayoress (Mrs. R. Rose), Alderman and Mrs. H. R. V. Addenbrooke, Mr. and Mrs. J. L. Hoorweg, Mr. and Mrs. T. S. Kilpatrick, Mr. A. W. Marshall, Mr. and Mrs. H. Pendleton, Mr. R. Rose, Mr. L. M. Sayers, Mr. and Mrs. D. R. Wattleworth and Mr. and Mrs. A. H. Williams.

In a graceful and felicitous speech Mrs. J. Ratter proposed the toast of the Borough of Morecambe & Heysham, and in reply the Mayor welcomed the members of the Institution, and the ladies, to Morecambe.

The toast of "The Permanent Way Institution" was proposed by Mr. L. M. Sayers, Assistant General Manager, London Midland Region, British Railways. He said the General Manager, Mr. David Blee, had asked him to express regret at inability to be present and convey wishes for a very successful gathering. Mr. Sayers said the modernisation plans now being carried out by British Railways would vitally affect the members of the Institution, but they would do their utmost to make the plan a success.

Mr. J. Ratter, in reply, expressed thanks to all for their cordial welcome and to Mr. Blee for his practical interest in the meeting. Thanks were due to the Convention Committee of the Lancaster, Barrow & Carlisle Section of the Institution, especially the Chairman, Mr. W. H. Best and the Secretary to the Committee, Mr. R. H. Walker.

Mr. A. Dean proposed the toast of the guests, and this was wittily responded to by Mr. T. S. Kilpatrick, Deputy General Manager, Workington Iron & Steel Company.

Others present at the function were:—

Messrs. C. J. Ady, G. D. S. Alley, H. C. A. Beaumont, G. E. Bedford, B. L. Bell, W. H. Best, E. E. Blick, E. E. Blyth, R. Bradford, K. Brinsmead, W. Bygott, J. A. Carey, D. P. Carr, T. A. Carson, C. J. Chamberlain, H. W. Clarke, A. Dean, H. C. Dickin, J. Dobson, R. I. Douglas, C. E. Dunton.

G. F. Eyles, M. A. K. Fraser, J. C. Fyfe, F. E. Gibbs, H. J. Green, A. P. Hatz, G. Hellaby, Langton Highton, T. Hodge, J. Hydeffolliott, H. Janes, C. W. King, F. A. Knutt, H. G. Lakeman, A. Lloyd Owen.

A. C. Maber, F. R. MacRae, H. V. G. Malings, T. G. Martin, L. H. Mason, E. J. M. Matheson, D. D. Menzies, B. L. Middleton, R. C. Mosedale, E. H. Nevard, H. Ormiston, P. R. Paxton, J. Peace, I. Powell, S. E. Prior.

A. S. Reid, W. H. Roden, W. Rothwell, L. S. Sanson, M. G. R. Smith, R. G. Smith, R. W. Smithies, L. T. Starks, N. W. Swinnerton, A. Terris, J. Taylor Thompson, H. E. Thompson, D. C. Treacher, S. C. Tucker, J. A. R. Turner, R. H. Walker, W. J. Waugh, W. H. Weston, W. J. Witt, H. A. A. While, and D. G. Woodman.

### Technical Visits

On June 2 a party of members travelled to Brock to inspect the combined relaying and drainage work in progress at the water troughs. The party was led by the District Engineer, Mr. W. H. Best.

The next day members paid visits to the English Electric Co. Ltd. Dick Kerr Works at Preston and the Leyland Works of Leyland Motors Limited, respectively. Other visits on this day were to a new British Railway steamer at Heysham, and, at Lancaster, the works of Storey & Co. Ltd., J. Williamson & Sons Limited, Lansil Limited, and the Standfast Dyers & Printers Limited.

On June 4 a party of some 80 members travelled by train to Workington to inspect the Moss Bay Steel Works of the Workington Iron & Steel Co. Ltd. The visitors were received by the General Manager, Mr. Langton Highton, and other officials of the company. The remainder of the party proceeded to Keswick, and eventually returned to Morecambe via Penrith. A small party of members travelled from Morecambe to Shap by motorcoach and inspected the quarries and works of the Shap Granite Company.

In the evening there was a reception and dance at the Floral Hall Ballroom at the invitation of the Mayor and Corporation of the Borough of Morecambe & Heysham.

On June 5, some members inspected the Vickers Armstrong works and Barrow Docks and the remainder of the party proceeded by coach to Coniston and Ambleside. On June 6, the last day of the convention, a coach tour to the Lake District was made.

# Fast Anglo-Scottish Services

*Inaugural runs of the "Morning Talisman" and "Caledonian"*

The "Morning Talisman," a new fast train in both directions between Edinburgh and London on the East Coast Route, made its inaugural run on June 17. This train runs Mondays to Fridays inclusive, stopping only at Newcastle. It is a sister train to the "Afternoon Talisman" which was introduced on September 17, 1956.

The same rolling stock is used to operate both the "Morning Talisman" in one direction and the "Afternoon Talisman" in the other. Each train set, therefore, runs some 800 miles a day, representing the most intensive use of main-line rolling stock. All coaches on these trains are fitted with Timken tapered roller bearings for smooth running, the first time such bearings have been used on such stock in this country.

In the up direction, the "Morning Talisman" leaves Edinburgh at 7.30 a.m., arrives at Newcastle at 9.39 a.m., leaves at 9.45 a.m. and arrives at Kings Cross at 2.15 p.m., covering the distance of 393 miles in 6 hr. 45 min., an average speed of 58·2 m.p.h.

In the down direction, the running time is the same, but the train leaves Kings Cross at 7.45 a.m., arrives at Newcastle at 12.19 p.m., departs 12.25 p.m. and arrives in Edinburgh at 2.30 p.m.

The number of passengers carried on this train is limited to the seating accommodation available, which is for 68 first class and 162 second class passengers. All seats are reservable in advance on payment of the appropriate fee. Full train restaurant and refreshment facilities are available.

### Business and Continental Travel

The "Morning Talisman" service enables businessmen to conduct a full afternoon and evening conference in Scotland or London, return via overnight sleeping car service and be in the office the following morning. Travelling south, the "Morning Talisman" enables passengers to catch the 4.30 p.m. Continental service from Victoria to Paris, Switzerland, and Italy.

The down "Morning Talisman," despite a number of checks by signals and for permanent way work, arrived at Newcastle Central only 1½ min. late, having touched 92 m.p.h. on one stage of the run behind No. 60025 *Falcon* an "A.4" Pacific, hauling 284 tons. The change of engines was performed very quickly and the train left 4½ min. later on time. A check just after entering the Scottish Region lost 1½ min. which No. 60009 *Union of South Africa*, another "A.4," had made up by the time Portobello was reached, but a slow run into Edinburgh Waverley gave an arrival 30 sec. behind time.

In the up direction the train was hauled by "A.1" Pacific No. 60157, *Great Eastern*, from Newcastle to Kings Cross. This locomotive is fitted with roller bearings. The up train arrived 3 min. before time. The smooth running of the roller-bearing fitted coaches was noticeable and improved on the comfort for which these trains were already noted.

It is hoped that the bearings will function without attention for the whole of the summer service. An article describing the bearings and an illustration of the down train appear elsewhere in this issue.

The up "Caledonian," of the Scottish and London Midland Regions, which left Glasgow Central at 8.30 a.m. on its inaugural trip on June 17, arrived at Euston at 3.8 p.m. 2 min. early. The train was hauled by a "Coronation" class 4-6-2 locomotive, and the load consisted of eight bogies (specially reconditioned stock, with distinctive carpets and upholstery) weighing 264 tons. The down train, leaving Euston at 4.15 p.m. (to the music of the pipe band of the Royal Caledonian School, Bushey) with a similar load and motive power, easily maintained the schedule to Grayrigg, where 12 min. were lost by a point failure, and 5 min. regained by fast running thereafter to Carlisle. On June 18 the southbound train arrived at Euston 7 min. ahead of time.

The locomotives hauling the "Caledonian" trains carry headboards bearing the shields of St. Andrew and St. George. The train staff wear special badges and the restaurant car attendants have tailored uniforms with white jackets. There is accommodation for 84 first class and 120 second class passengers and all seats must be reserved.

The train runs Mondays to Fridays leaving Euston at 4.15 p.m. and Glasgow at 8.30 a.m. Arrival times are 10.55 p.m. at Glasgow and 3.10 p.m. at Euston. The northbound "Caledonian" stops at Carlisle at 9.6 p.m. to enable passengers for that point to alight, and in the southbound direction at 10.19 a.m. for passengers to join the train. The "Caledonian" was the subject of editorial comment in our issue of March 8.

# Demonstration Runs of Western Region Inter-City Diesels

The demonstration runs of the new Western Region inter-city diesel trains took place from Newport to Swansea and back on June 12 and from Birmingham Snow Hill to Gloucester and back the following day.

On both occasions those travelling included civic dignitaries, leading industrialists, representatives of transport users, and other persons prominent in the communities served, besides Members and officers of the B.T.C. and of the Western Area Board, and officers of the Western Region of British Railways. All runs proved very successful.

Those who travelled from Newport to Swansea on June 12 included:—

*British Transport Commission:* Sir Brian Robertson, Chairman;

*Western Area Board:* Messrs. Anthony Berry, F. A. Parish, and P. T. Heady, Members;

*Western Region:* Messrs. K. W. C. Grand, General Manager; A. C. B. Pickford, Chief Commercial Manager; C. J. Rider, Public Relations & Publicity Officer; C. T. Roberts, Carriage & Wagon Engineer; R. A. Smeddle, Chief Mechanical & Electrical Engineer; W. R. Stevens, South Wales Area Officer; H. E. A. White, Motive Power Superintendent; and A. W. Woodbridge, Signal Engineer,

*British Transport Docks Division:* Mr. W. Jeffers, Chief Docks Manager, South Wales Docks;

*B.T.C. Police:* Mr. W. W. Wood, Chief of Police, South Western Area.

The party on June 13 included:—

*British Transport Commission:* Mr. R. F. Harvey, Chief Operating & Motive Power Officer;

*Western Area Board:* Messrs. R. F. Hanks, Chairman; and A. Chamberlain, Member;

*Western Region:* Messrs. H. G. Bowles, Assistant General Manager (Administration); A. C. B. Pickford; C. J. Rider; C. T. Roberts; R. A. Smeddle; H. E. A. White; and A. W. Woodbridge.

*B.T.C. Police:* Mr. W. E. N. Growdon, Chief of Police, Midland Area.

The accompanying illustration of a group at Gloucester shows (left to right): Messrs. R. A. Smeddle, R. F. Harvey, A. W. Woodbridge, R. F. Hanks, and A. Chamberlain.

*At Gloucester on June 13, after the demonstration run from Birmingham of the Western Region inter-city diesel train*

# Ripple Lane Goods Depot, Eastern Region

*Large perambulation shed built on piled foundations: future extension of collection and delivery services*

*View of perambulation shed showing precast concrete portal frames*

A new goods depot is being built at Ripple Lane, near Barking, Eastern Region, to replace an existing depot near Barking station, the site of which is required in connection with the rearrangement of running lines and the flyover scheme at Barking, on which work is now in progress. Initially, the new depot will deal with sundries, full load, coal, and storage traffic, at present dealt with at the existing yard, but the land in the immediate vicinity will later be available for re-development and the goods depot will then be extended. Ultimately, a feature of the new depot will be the collection and delivery of goods by road over a wide area. Its framework is being built with this in view.

The layout of the new depot includes a large shed for direct loading of outwards sundries traffic. The inwards traffic will be temporarily dealt with at a sawtooth bench. There will be six sidings with road access, giving standage for 162 wagons exclusive of the roads serving the goods storage and scrap dump and the loading dock; a coal storage site amounting to 3,500 sq. yd. against 2,482 at present; and goods storage and scrap dump increased from 1,420 to 5,150 sq. yd. Electric lighting to present day standards will be provided and there will be a weighbridge sited at the entrance to the depot. A single-storey office block will contain offices, stores, and staff amenities and be capable of extension to two storeys at a later date.

### Portal-framed Shed

The perambulation shed on the southern side of the depot spans two rail tracks, each holding 35 wagons, with a 30-ft. roadway between. The building is 750 ft. long and 60 ft. wide. The structure of the building consists of precast concrete portal frames at 15-ft. centres with concrete purlins. Because of the poor nature of the sub-soil, the whole structure is supported on piled foundations. Roof and wall cladding consists of corrugated asbestos sheeting, with glazed portions in Georgian wire cast glass.

The office block at the new depot has been planned to meet a two-stage development programme, the first stage providing office and messing accommodation for commercial clerical staff, and amenities and mess for goods staff. The second stage will provide additional offices for commercial staff.

For speed of erection and to facilitate easy extension, a form of cross wall construction with window wall infilling to the main elevations has been adopted. Provision is made for the re-allocation of accommodation and the construction of a staircase at the time of the erection of the second stage.

The cross walls of the office block are 13½ in. thick, constructed of second class engineering bricks with kiln stocks used as facings. These walls are supported on piled foundations. The roof is a reinforced concrete hollow clay block slab spanning between cross walls. Internal partitions are formed in breeze block plastered.

The heating installation is of the low-pressure accelerated type with radiators in each room fed from fully-automatic oil-fired boilers. Two boilers have been provided, one for space heating and domestic hot water during the winter months and a smaller boiler for domestic hot water during the summer months.

Preliminary designs were carried out by the Chief Civil Engineer's Department, Eastern Region. Contract drawings and site supervision are in the hands of the consulting engineers, Sir William Halcrow & Partners, under the overall direction of Mr. A. K. Terris, Chief Civil Engineer, Eastern Region.

The contract for the construction of piled foundations was let to Holmpress Piles Limited, Hull, and that for the construction of the access road, culverts, switchgear house, cable trenches, and drawpits to Samuel Williams & Sons, Limited, Dagenham Dock, Essex.

The construction of the office block and other buildings, roads, sidings, drainage, fencing, and ancillary works was entrusted to W. & C. French, Limited, Buckhurst Hill, and the London Ferro-Concrete Co. Ltd., Westminster, S.W.1, was the subcontractor for the precast concrete frame for the perambulation shed.

# British Railways Diesel Locomotives to be Renumbered

As mentioned on page 554 of our issue of May 10, British Railways have decided to adopt a new numbering system for all new main line diesel locomotives and for new and existing diesel shunting locomotives. The decision to renumber has been made because the present system of numbering, which uses numbers from 1 to 99999 and covers steam, diesel and electric locomotives, leaves insufficient scope for allocating consecutive block numbers to all the main-line diesel locomotives planned under the railway modernisation programme. To have continued with this series would have meant using six-figure numbers commencing at 100,000.

Adoption has been decided on a scheme of numbering using the letter D as a prefix and starting with D.1. Under this system block numbers are being allocated to the various diesel locomotive power groupings so that a locomotive's number, in addition to identifying it, will also indicate its power range.

The standard 350-h.p. diesel shunting locomotives at present included in the 13000 series are being re-numbered in the D.3000 group. The 200-h.p. diesel shunting locomotives at present numbered in the 11000 series will eventually be included in the D.2000 group. As previously stated, it is not intended to re-number the existing eight main line diesel and gas turbine locomotives.

The first locomotives to be numbered under this new scheme are the 174 main line diesel locomotives now being built. The numbers allocated to these locomotives are as follow:—

| Type | Number to be built | Locomotive numbers | Builders and Contractors | Operating Region |
|---|---|---|---|---|
| 2,300 h.p. | 10 | D.1—D.10 | B.R. (Derby) Sulzer | L.M. |
| 2,000 h.p. | 10 | D.200—D.209 | English Electric | E. |
| 2,000 h.p. | 5 | D.600—D.604 | North British | W. |
| 2,000 h.p. | 3 | D.800—D.802 | B.R. (Swindon) Maybach | W. |
| 1,160 h.p. | 20 | D.5000—D.5019 | B.R. (Derby) B.T.H. | L.M. |
| 1,160 h.p. | 20 | D.5300—D.5319 | Birmingham C. & W. | E. |
| 1,250 h.p. | 20 | D.5500—D.5519 | Brush Bagnall | E. |
| 1,200 h.p. | 20 | D.5700—D.5719 | Metro-Vickers | L.M. |
| 1,100 h.p. | 10 | D.5900—D.5909 | English Electric | E. |
| 1,000 h.p. | 10 | D.6100—D.6109 | North British | E. |
| 1,000 h.p. | 6 | D.6.00—D.6305 | North British | W. |
| 1,000 h.p. | 20 | D.8000—D.8019 | English Electric | L.M. |
| 800 h.p. | 10 | D.8200—D.8209 | B.T.H. | L.M. |
| 800 h.p. | 10 | D.8400—D.8409 | North British | E. |

## Parliamentary Notes

### Salaries of Nationalised Board Members

Lord Mills, Minister of Power, in the House of Lords on May 30, intimated that it should be possible within a few weeks for the Government to make a statement on remuneration and salaries covering all the nationalised boards.

A debate on the subject arose on a proposed new clause by Lord Lucas of Chilworth to the Electricity Bill (on its final detailed or report stage consideration) that the terms and conditions of the appointment of all members of the Generating Board, Electricity Council, and Area Boards "shall conform to good industrial and commercial standards."

Lord Lucas, in submitting this amendment, recalled that on the Committee consideration of the Bill the House "had a most interesting discussion on this vexed problem"—the terms and conditions of the appointment of members of nationalised boards. After that discussion Lord Mills had said that he would think about the matter again.

This was a battle he had fought ever since he had anything to do with this matter, when he was the Parliamentary Secretary to the Ministry of Transport. One of the reasons for the non-success of that particular nationalised industry was the "chicken feed" remunerations that they had tried to pay to those who were running an industry with a turnover of £800 million a year.

It was necessary, Lord Lucas went on, to make the public wake up to the fact that the Government was trying to run the nationalised industries on charity, and not on a sound commercial basis.

The Herbert committee report had said: "We consider, after taking into account the depreciation of money since 1947, and the salaries for comparable posts in private industry, that the salaries of the chairman and full-time members of the Central Authority should be at least £10,000 and £8,500 respectively, whilst the salaries of the chairman and full-time members of the Generating Board should be at least £8,500 and £7,000 respectively. The post of area board chairman should command £6,000 for a full-time and £3,000 for a part-time appointment, and the remuneration for other part-time appointments with the Central Authority and boards should be at least £2,500 and £1,000 respectively."

### Obtaining High-quality Men

Lord Woolton said he hoped the Minister would give favourable consideration to the amendment which he supported. All parties were pledged to keep the nationalised industries and wanted them to be successful. It was nonsense to assume that the quality men necessary to conduct these great industries could be obtained unless they were rewarded, at any rate approximately, with salaries that they were able to get in the ordinary commercial market. It was a great misfortune that the Minister was somewhat restricted by existing legislation and it would be a good thing if the Government would consider revising that legislation and the possibility of putting these nationalised industries on to a commercial basis.

Lord Mills said he agreed with the sentiments expressed but after thinking the matter over had reluctantly come to the conclusion that accepting the amendment would not help. He could assure the House that this matter was receiving the active attention of the Government and it should be posible within a few weeks to make a statement covering all the nationalised industries.

The amendment was, by leave, withdrawn.

## Questions in Parliament

### Victoria Line

Mr. E. Davies (Enfield E.—Lab.) asked the Minister of Transport & Civil Aviation on June 5 if he would now state the outcome of his consultations in regard to proceeding with the construction of the Victoria Line tube.

Mr. Harold Watkinson: I have had an approach from the B.T.C. about the construction of this line, and I am now considering the financial problems which it poses.

Mr. Davies: Is the Minister giving the most urgent attention to this matter? Does he not appreciate that the growing congestion in London is rapidly bringing traffic into a state of chaos, and that if there is not some relief to surface traffic by the increase in the provision of underground tube lines the situation will become desperate? Will he give the most urgent consideration to this matter, and announce a decision as soon as possible?

Mr. Watkinson: This project is not exactly a new one. It has been on the cards for a great many years. I am now examining it, but there are two problems. One is that a very large capital expenditure is required, and the other is whether it can be made to show a profit or whether it will show a heavy loss.

Mr. Davies: But would not the expenditure of this very large sum on constructing a new tube to relieve surface traffic be better than spending it on street widening and so on, which is even more expensive in London?

Mr. Watkinson: That is the relevant point which I am considering.

Major Legge-Bourke (Ely—C.): Is the Minister aware that at the meeting of the Select Committee, of which I was Chairman, to consider the Bill for constructing this line we were informed by the B.T.C. representative that on no account could the tube ever be made to pay? Will the Minister make sure, if he does decide to go ahead with this line, that it is thoroughly justified, in spite of that?

### Automatic Train Control

Mr. G. Nabarro (Kidderminster—C.) asked the Minister of Transport & Civil Aviation on June 5 in the interests of increased safety for the rail travelling public, what increase in automatic train control had taken place in the last 12 months; and at the present rate of progress how long it would be before all main lines and the locomotives working on them, whether steam, electric, or diesel electric, are appropriately equipped for automatic train control.

Mr. Harold Watkinson: During the last 12 months the automatic train control test length was extended from 77 to 210 track miles. Since it received my final approval of the system last November, the B.T.C. has been pressing ahead with its plans to provide the equipment on all the main traffic routes as quickly as possible. It is the intention to equip more than 1,300 miles of route together with some 10,000 locomotives by the end of 1962.

### Waterloo-London Airport Line

Mr. A. E. Hunter (Feltham—Lab.) asked the Minister of Transport & Civil Aviation on June 5 whether he was yet in a position to give further information of the proposed railway link between Waterloo and London Airport.

Mr. Frank Beswick (Uxbridge—Lab.) also asked, what progress had been made towards the provision of a rail link between central London rail termini and London Airport.

Mr. Harold Watkinson: I am now studying, in consultation with the chairmen of the B.T.C. and the Airways Corporations, the report of the committee set up by the Commission to consider the possibility of a rail link between London and the Airport.

Mr. Hunter: While thanking the Minister for that reply, may I ask him whether he will use his best endeavours to get the matter speeded up, for the congestion on the road between Waterloo and London Airport is very bad, and the matter is very urgent.

Mr. Watkinson: The matter may be very urgent, but some of the present proposals would close the main runway at London Airport for a considerable period, and that would cause even more congestion.

## Staff and Labour Matters

### Shipbuilding Workers' Pay

Agreement was reached on June 11 between the Shipbuilding Employers' Federation and the C.S.E.U. in regard to improved rates of pay for shipbuilding employees. Under this agreement skilled employees receive an advance of 11s. a week, semi-skilled 10s., and unskilled workers 9s. a week. The revised rates of pay are operative from May 27, 1957.

In addition, whilst it is recognised on both sides that special factors may require a reconsideration of the position, the parties are agreed that there should be a period of stability so far as the problem of recurrent wage claims is concerned. In these circumstances the C.S.E.U. has accepted the advance agreed as being in full settlement of all existing claims for increased wages other than certain claims submitted before May 23, 1957, and has undertaken, subject to the above, that no further applications for increased wages shall be submitted for at least a year from the operative date of the agreement.

### Busmen's Pay Dispute

An offer of 3s. a week more for the 90,000 employees of company-owned provincial bus and tramway services was rejected when the national council for the omnibus industry met in London earlier this week. The council represents the unions and employers.

An official statement issued by the Conference of Omnibus Companies, on behalf of provincial omnibus undertakings, said that the unions were claiming increases of more than 20s. a week, with 21s. 6d. a week more on the basic rate for drivers, and increased Saturday afternoon pay. The statement also said that the employers' representatives had told the unions that they would willingly join in any voluntary arbitration either through the Ministry of Labour or otherwise and would facilitate any such arbitration.

The bus companies concerned are all those outside London, except the municipal undertakings and those in Northern Ireland.

After a meeting of the national council, Mr. Frank Coyle, national secretary of the passenger transport group of the Transport & General Workers' Union, said that the separate unions would decide what action should be taken.

# Contracts and Tenders

## £4,000,000 *B.T.C. contract for B.M.C.*

The British Motor Corporation has recently entered into a contract valued at £4,000,000 with the British Transport Commission to supply a large number of vacuum brake cylinders over the next three years. This is part of British Railways modernisation plan to speed up the working of freight trains.

Additionally, the British Motor Corporation has secured a contract for a considerable quantity of buffers which are of a new type, introduced expressly for the purpose of reducing shock during shunting operations.

The British Motor Corporation hopes to do still more work for British Railways, in connection with improved braking systems.

British Thomson-Houston Co. Ltd. has recently received a contract from the New Zealand Government Railways for 18, 400-h.p. diesel-electric locomotives to the value of £600,000. Each locomotive will be of the bogie type, containing two 200-h.p., six-cylinder Rolls-Royce diesel engines coupled to B.T.H. traction generators which will supply power to four B.T.H. axle-hung traction motors. The mechanical parts for the locomotives will be supplied by the Clayton Equipment Co. Ltd., Derby. The locomotives will be used for major shunting duties and light main-line service in the North Island.

The Eastern Region of British Railways have placed a contract with the Siemens & General Electric Railway Signal Co. Ltd., for the conversion of signalling equipment to operate on 50-cycle a.c. traction, from Liverpool Street to Bethnal Green, and from Fenchurch Street to Bow Junction.

The Gloucester Railway Carriage & Wagon Co. Ltd. has received an order from Rhodesia Railways for 30 bogie goods guards vans.

British Railways, North Eastern Region, have placed the following contracts:—

F. Shepherd & Son Ltd., York: brake assembly and test pits, York Wagon Works.

Turnerised Roofing Co. Ltd., London: covering by turnerised process roof, of wool warehouse, Bradford Valley Goods.

S. H. Heywood & Co. Ltd., Manchester: electrical installations, Gateshead Greensfield Motive Power Depot.

S. H. Heywood & Co. Ltd., Manchester: electrical installation, Stourton Motive Power Depot.

British Railways, Southern Region, have placed the following contracts:—

Taylor Woodrow Construction Limited, Southall, Middx: new platform roofing and improvements, St. Leonards (West Marina)

Caffin & Co. Ltd., London, W.C.2: renovations, Egham and Ewell West Stations

John Laing & Son Ltd., London, N.W.7: widening of the line, Rainham to Newington

Truett & Steel Limited, Thornton Heath, Surrey: new staff accommodation, Waddon Marsh

Caffin & Co. Ltd., London, W.C.2: reconstruction, Upper Warlingham Succombs Hill bridge.

Harland & Wolff Limited, London, E.16: enlarging pontoon and repairs to dolphins and Town Pier, Tilbury-Gravesend Ferry

Mears Bros. (Contractors) Ltd., London, S.E.26: reconstruction, Appledore Kenardington bridge

C. E. Prince & Son Limited, Southampton, Hants: new staff accommodation, Eastleigh Locomotive Works

E. Hayden & Sons Ltd., Tunbridge Wells, Kent: new cargo shed, central heating installation, hot water services and ventilation, Newhaven Harbour.

The Special Register Information Service, Export Services Branch, Board of Trade, has received a call from South Africa for coaches, bogies, wheels, and axles as follows:—

43 inspectors coaches, 3-ft. 6-in. gauge
20 trainsmens coaches, 3-ft. 6-in. gauge
132 artisans coaches, 3-ft. 6-in. gauge
126 artisans coaches, 3-ft. 6-in. gauge
11 artisans narrow gauge coaches
1 first class narrow gauge coach
3 second class narrow gauge coaches (type NG-E1)
6 second class narrow gauge coaches (type NG-03)
bogies, 3-ft. 6-in. gauge
bogies, narrow gauge
wheels and axles, 3-ft. 6-in. gauge
wheels and axles, narrow gauge
components.

The issuing authority is the Stores Department, South African Railways. The tender No. is 6546. The closing date is September 27, 1957. A copy of the tender documents may be inspected at the office of the South African High Commissioner in London. Copies of a leaflet issued by the Stores Department of the South African Railways regarding "Instructions for the Guidance of Overseas Tenderers and their South African Representatives or Agents," are available in the Branch (Lacon House, Theobalds Road, W.C.1). The attention of firms is drawn to the fact that because of the present import restrictions the South African Import Control will not issue an import permit if there is any possibility of obtaining the goods required locally, either from local manufacturers or from overseas manufacturers ex locally held stocks. Where invitations to tender are extended overseas the issue of an import permit will be considered but will not automatically be granted. If an overseas firm is successful, the import permit will be issued, but if a local offer is made, it can be accepted without committing the Administration to the issue of replacement permits. The reference ESB/14269/57 should be quoted in any correspondence with the Branch.

The Special Register Information Service, Export Services Branch, Board of Trade, has received a call from South Africa for a large quantity of non-ferrous overhead track equipment fittings, full details of which can be obtained from the Branch (Lacon House, Theobalds Road, W.C.1). The issuing authority is the Stores Department, South African Railways. Bids, in sealed envelopes, endorsed Tender No. C.6604 Overhead Track Equipment Fittings, should be addressed to the Chairman of the Tender Board, P.O. Box 7784, Johannesburg. The closing date is July 12, 1957. A copy of the tender documents, including specifications but not drawings, is available for loan to United Kingdom firms on application to the Branch. A photo-copy set can be purchased from the Branch for 9s. Cheques and postal orders should be made payable to the Principal Accountant, Board of Trade. Firms wishing to collect photo-copy sets of tender documents are advised to notify the Branch in advance of their requirements. The reference ESB/14486/57 should be quoted in any correspondence with the Branch.

The Special Register Information Service, Export Services Branch, Board of Trade, has received a call from India for signalling equipment as follows:—

1,390 up and down rods, complete 4 ft. part No. 773531 of drg. No. 77353. D.G.S. & D. No. (13671) with I.R.S. drg. mentioned on the drg. and complete with all parts shown.

The issuing authority is the Director General of Supplies and Disposals. The tender No. is WP2/24208-H/V/B. Bids should be sent to the Director General of Supplies and Disposals, Shahjahan Road, New Delhi. The closing date is June 26, 1957. A set of tender documents, but not drawings, is available for loan to United Kingdom firms on application to the Branch (Lacon House, Theobalds Road, W.C.1). A photo-copy set can be purchased from the Branch for 17s. Cheques and postal orders should be made payable to the Principal Accountant, Board of Trade. Firms wishing to collect photo-copy sets of tender documents are advised to notify the Branch in advance of their requirements. The reference ESB/13749/57 should be quoted in any correspondence with the Branch.

The Special Register Information Service, Export Services Branch, Board of Trade, has received a call from South Africa for automatic couplers as follows:—

2,000 automatic couplers, "S" type, complete, 8 in. by 6 in. cast steel, side pull, bottom operated, to S.A.R. drawing CME.68/10709-478/A and specification CME.3/1952. Atlas and Alliance types of couplers to the relevant drawings will be acceptable in each case.

The issuing authority is the Stores Department, South African Railways. Bids in sealed envelopes, endorsed "Tender No. H.6070 for Automatic Couplers," should be addressed to the Chairman of the Tender Board, South African Railways, P.O. Box 7784, Johannesburg. The closing date is June 28, 1957. A copy of the tender documents, but not drawings or specification, is available for loan to United Kingdom firms on application to the Branch (Lacon House, Theobalds Road, W.C.1). A photo-copy set can be purchased from the Branch for 6s. Cheques and postal orders should be made payable to the Principal Accountant, Board of Trade. Firms wishing to collect photo-copy sets of tender documents are advised to notify the Branch in advance of their requirements.

The reference ESB/13839/57 should be quoted in any correspondence with the Branch.

The Special Register Information Service, Export Services Branch, Board of Trade, has received a call from India for cotters for railway track as follows:—

100,000 M.S.D.O. cotters with split to drawing No. 1055-33A.

The issuing authority is the Director General of Supplies and Disposals. The tender No. is WP-I/18089-H/II. Bids should be sent to the Director General of Supplies and Disposals, Shahjahan Road, New Delhi. The closing date is July 2, 1957. A set of tender documents, including drawing is available for loan to United Kingdom firms on application to the Branch (Lacon House, Theobalds Road, W.C.1). The attention of United Kingdom firms is drawn to a booklet issued by the Government of India entitled "Conditions of Contract Governing Department of Supply Contracts," a copy of which is available for inspection at the Branch. The reference ESB/14685/57 should be quoted.

## Notes and News

**Specialloid Limited Results.**—Specialloid Limited, manufacturers of pistons for petrol and diesel engines, have retained the ordinary dividend at 15 per cent for the year ended March 30, 1957, on the capital increased by cash issue from £40,007 to £150,000. Group trading profit was £86,559 (£118,759), and the net profit was £35,227 (£74,385), after tax of £13,109 (£2,399).

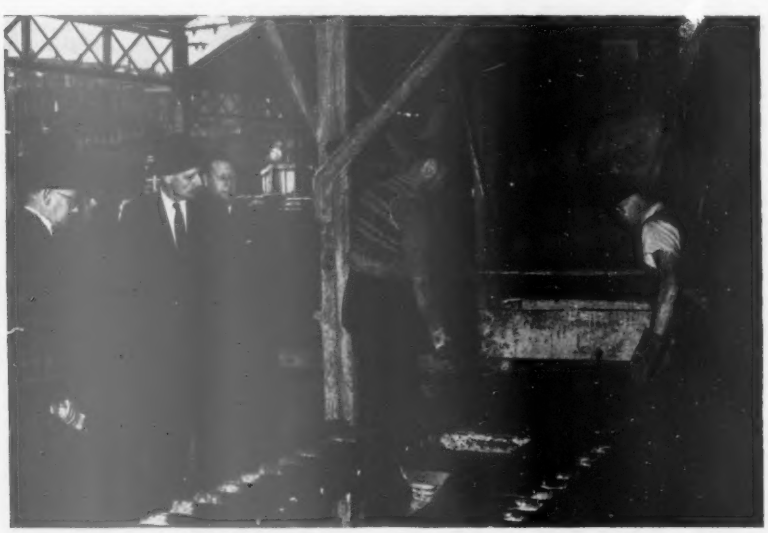
**Siemens Brothers-Edison Swan Merger.**—Subject to the formal consent of the Board of Trade, the businesses carried on by the Edison Swan Electric Co. Ltd. and Siemens Bros. & Co. Ltd. will be merged and carried on as from July 1, 1957, by Siemens Bros. & Co. Ltd. under the new name of Siemens Edison Swan Limited. Siemens Bros. & Co. Ltd., under its new name, will accept and duly discharge the liabilities of both companies outstanding at July 1, 1957.

**Southern Area Board Visit to Concrete Works and Quarry.**—Sir Philip Warter, Chairman, and other Members of the Southern Area Board, accompanied by Mr. C. P. Hopkins, General Manager, Southern Region, and other officers recently visited Redbridge Works, Exmouth Junction Concrete Works, and Meldon Quarry. The accompanying illustration shows Sir Philip Warter at Exmouth Junction Concrete Works, with (left) Mr. Hopkins and Mr. K. Preston, Member, Southern Area Board.

**London Midland Region Traffic Organisation.**—The name of the Assistant General Manager (Administration) of the London Midland Region is Mr. L. W. Cox and not, as stated in the editorial article in our June 14 issue, Mr. E. S. Cox.

**Train Derailed by Air Crash.**—An R.A.F. Hunter jet aircraft, involved in a mid-air collision soon after taking off from North Weald, Essex, on June 7, crashed and caused a steam train on the London Transport Epping—Ongar line to become derailed 400 yd. away. The train, working the shuttle service, was passing when the aircraft crashed, causing blast to buckle the lines. The driver slowed down, and had almost stopped, when the leading coach, which was being propelled by the engine, ran on to the buckled track and became derailed. The coach did not overturn, and none of the passengers were injured, although three were taken to hospital suffering from shock.

**Appreciation for Co-operation During Petrol Rationing.**—Sir Brian Robertson, Chairman of the British Transport Commission, has received a letter from Mr. C. M. Vignoles, Managing Director of Shell-Mex & B.P. Limited, following the Government's decision to end petrol and fuel oil rationing, in which Mr. Vignoles says: "As you know, the supply of petroleum products has now reverted to normal and the restrictions and difficulties to which all suppliers and consumers have been subject during the last few months are at an end. I should like to take this opportunity to express to you my sincere appreciation, and that of my Company, of the invaluable co-operation which has been given us in a period of national emergency by all members of the transport industry, and the great patience shown by them in a situation of unusual stress and anxiety. We in Shell-Mex & B.P. are most proud of our special association with this great national industry, and now that the emergency is over we look forward once more to the further growth and the strengthening of the important links between us."



*Sir Philip Warter with Mr. K. Preston and Mr. C. P. Hopkins at Exmouth Junction Concrete Works*

**Western Region Named Train.**—From June 17, the 8.30 a.m. train from Plymouth North Road to Paddington and the 5.30 p.m from Paddington to Plymouth have been named the "Mayflower." The trains bear the chocolate and cream livery of the former Great Western Railway.

**G. D. Peters & Co. Ltd. at the Engineering, Marine, Welding & Nuclear Energy Exhibition.**—G. D. Peters & Co. Ltd. will be displaying practically the whole of its manufactures on two stands at the Engineering, Marine, Welding & Nuclear Energy Exhibition to be held at Olympia, London, from August 29, to September 12. British Railways have co-operated with the company by lending them a full size section of a vehicle underframe, and a full size replica of a locomotive cab. These exhibits will demonstrate the operation of the braking system manufactured by the company.

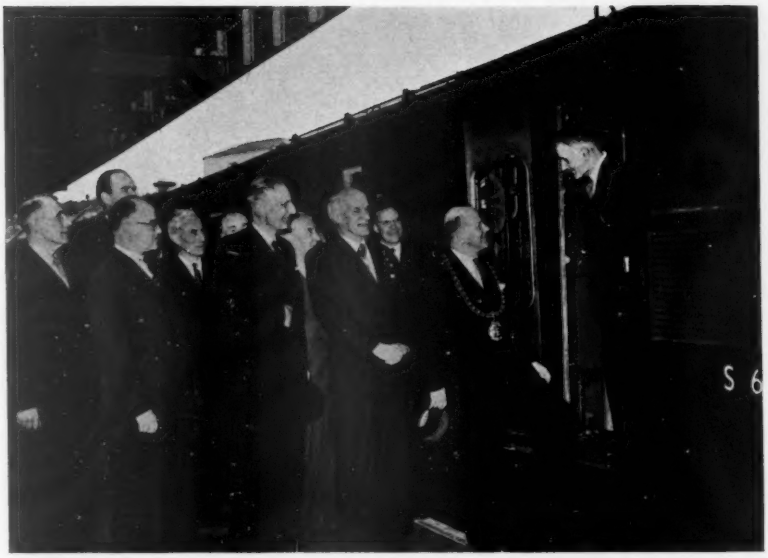
**Iron and Steel Production in May.**—Steel production during May at 443,200 tons a week was a record. It compared with the previous best rate of 432,100 tons a week in February of this year. It is difficult to make a fair comparison between production in individual months this year and last year because of the differing effects of holidays and the labour interruptions, but in the first five months of this year production was 4 per cent above production in the corresponding period of last year. Pig iron production at 283,500 tons a week was also a record. Production in the first five months of 1957 was 5·9 per cent above production in the corresponding period of last year.

**Associated Automatic Machine Corporation Limited Trading.**—The annual meeting of the Associated Automatic Machine Corporation Limited was held on June 4 in London. In the unavoidable absence of the Chairman, Mr. Stanley Parkes, the Deputy Chairman, Mr. William Thomas James, presided. In his circulated statement, the Chairman explained that in 1955 the profits of the group had been adversely affected by a number of occurrences. The accounts now under review showed that there had been a welcome recovery in the profits of the group. The current increases in the costs of transport, gas, coal, electricity, petrol and oil, rents and rates, had a tendency to reduce the spendable margin of general incomes for personal requirements.

**Modernised Waiting Rooms at Norwich Thorpe.**—The modernisation of the waiting rooms and ladies' lavatory at Norwich Thorpe has now been completed. Following the policy of the Eastern Region in the modernisation of these amenities the rooms at Norwich Thorpe have cheerful and interesting colours, with specially designed furniture, the whole being planned for easy cleaning. In the ladies' lavatory the walls are tiled throughout to a height of 7 ft. with full-height mirrors above the new hand basins. A powder shelf, below the mirrors, is of yellow and black mosaic. There are also facilities for nursing mothers. The ladies' room and general waiting rooms are furnished throughout with upholstered armchairs

and bench seats designed by Robin Day. The timber screen between the two waiting rooms has infill panels of vitreous enamelled metal panels backed with insulating board. The chimney breast has been tiled with black ceramic tiles and the hearth has been formed in blue bull-nosed engineering bricks. In the general waiting room is a reproduction on plastic of the original working drawing of an "E.4," ex Great Eastern, mixed-traffic 2-4-0 locomotive. The smaller pictures are signed lithographs by Gertrude Hermes and Alistair Grant.

**Newhaven-Dieppe Steamer Service.**—A British Railways announcement last week stated that the Newhaven-Dieppe passenger service will, in all probability, continue through the winter of 1957 but it is impossible at present to give assurances beyond that date. The statement was issued after a meeting between a deputation from Newhaven and other Sussex towns, led by Major Tufton Beamish, M.P. for Lewes, and Mr. C. P. Hopkins, General Manager, Southern Region. The deputation expressed grave concern at any contemplated withdrawal of the service and emphasised the great public need which was being met by it.

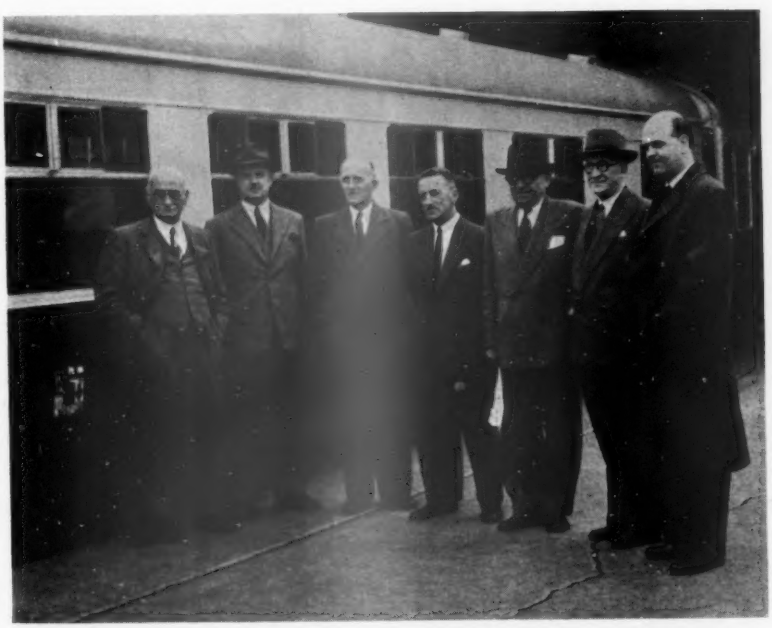


*Inspection of new diesel-electric train at Hastings by civic dignitaries accompanied by Members of Southern Area Board and officers of the Southern Region*

**Civic Inspection of Southern Region Diesel-Electric Train.**—A civic inspection of one of the diesel-electric multiple-unit trains built for the Hastings route to London via Tunbridge Wells took place at Hastings Station on June 12. The Mayor of Hastings, Alderman F. T. Hussey, and the Mayor of Bexhill, Councillor E. Carter, were shown over the train by Sir Philip Warter, Chairman of the Southern Area Board, and Mr. C. P. Hopkins, General Manager of the Southern Region. The accompanying illustration shows (from left to right): Alderman S. S. Riddle; Mr. C. P. Hopkins; and behind him, Mr. J. McNaughton Sidey, Member, Southern Area Board; Mr. W. J. A. Sykes, Chief Mechanical & Electrical Engineer, Southern Region; Sir Philip Warter, Chairman, Southern Area Board; Councillor E. Carter; Mr. D. McKenna, Assistant General Manager, Southern Region, and Alderman F. T. Hussey.

## Inaugural Trip of G.N.R. (I.) Diesel Train

(*See our June 7 issue*)



*Before departure from Belfast: (left to right) Messrs. C. F. Cleaver, British United Traction Limited; J. C. Bailie, Traffic Manager, and H. E. Wilson, Mechanical Engineer, G.N.R. Board; A. C. Needs, Park Royal Vehicles Limited; G. B. Howden, Chairman, U.T.A., and Vice-Chairman, G.N.R. Board; J. F. McCormick, General Manager, G.N.R. Board; and Ronald Ellis, British United Traction Limited*

**Brooke Tool Manufacturing Co. Ltd. Results.**—The group trading profit of the Brooke Tool Manufacturing Co. Ltd. to September 28, 1956, was £202,646, compared with £272,864 in the previous year. After all charges, and £25,481 (£31,620) retained by subsidiaries, profit of the company was £14,407 (£54,632). A dividend of 5 per cent on doubled capital (20 per cent on old capital) is recommended.

**International Sleeping Car Share Trust.**—In May, 1956, Mr. P. S. Elliston, liquidator of the International Sleeping Car Share Trust, declared a first and final distribution for each share held of cash 2·832d., 0·01885714 fraction of one Wagons-Lits ordinary, 0·00114286 fraction of one Wagons-Lits preference. In his report for the year ended March 25, 1957, he asks holders who have not yet applied for this dividend to do so without delay.

**Maidstone & District Motor Services Dividend.**—A dividend of 10 per cent for the year ended March 31, 1957, is proposed by Maidstone & District Motor Services Limited. This is the same as in 1956. Group profit amounted to £185,941 (£186,392) after tax of £237,462 (£153,254). The parent company's net profit amounts to £172,491 (£177,147). General reserve receives £75,000 (£100,000) and £125,716 (£121,950) is carried forward.

**Expandite Limited Dividend.**—In recommending a final dividend of 12½ per cent, the Board of Expandite Limited has borne in mind the rapid expansion of the company and the need to conserve liquid resources and plough back profits. The proposed bonus issue and consolidation of existing shares into shares of 2s. is to bring the share capital issued to share-

holders more into line with the capital employed. The Board will continue to review the rate of dividends bearing in mind the overall needs of the company and the interests of the shareholders.

**Scottish Machine Tool Corporation Limited.**—The dividend of Scottish Machine Tool Corporation Limited is held at 12 per cent with an unchanged final payment of 9 per cent. Profits for the year ended March 31 fell to £123,235 from £151,544 for 1955-56, before tax of £72,000 (£81,500).

**French Train Accident.**—Eight passengers were killed and 25 injured in a railway accident at Boisleux, near Arras, in the Northern Region of the French National Railways, on June 18. The last two coaches and a mail van of an express from Tourcoing to Paris were derailed while the train was travelling at 50 m.p.h. The S.N.C.F. announced later that the service was not greatly affected. Trains from Paris to the north were passing through Boisleux on service tracks, and trains from the north to Paris were being diverted.

**Rolls-Royce Record Orders and Output.**—In his circulated statement, Lord Kindersley, Chairman, Rolls-Royce Limited, observes that in the year to December 31, 1956, output from the factories and orders taken reached record figures, and the company, which started in 1906 with a capital of less than £50,000, finished its fiftieth year with capital and reserves exceeding £23,000,000. Group sales amounted to £80,000,000 and at the end of the year the backlog of orders was some £90,000,000. This increasing turnover is not at present matched by a corresponding increase in trading profits. The company is at present having to expend substantial sums on the development of future products and is making substantial payments to the Ministry of Supply in respect of development expenditure incurred by them in past years. Taxation takes almost 60 per cent of earnings. Output of oil engines has steadily increased and further applications have been added to the range of industrial equipment in which they are already used. Particular importance is attached to the orders obtaining for engines, transmission units, and ancillary equipment for railcars. A Railway Traction Department has been created for the purpose of co-ordinating and promoting sales of complete transmission units, control systems, engines, and torque converters. As a result of successful trials by British Railways, instructions have been received to proceed with larger quantities, and in addition orders have been taken for railway equipment from overseas. The annual meeting will be held in Derby on July 9.

## Forthcoming Meetings

Open currently and until further notice.—British Transport Commission: Historical Exhibition "Transport Treasures" in Shareholders' Meeting Room, Euston Station, from 10 a.m. to 6 p.m. on weekdays, and 2 to 6 p.m. on Sundays. Admission 6d.

June 22 (*Sat.*).—Railway Correspondence & Travel Society, South of England Branch, at the Social Hall, Eastleigh Motive Power Depot, at 6.30 p.m. Paper on "The Lynton & Barnstaple Railway," by Mr. G. Caddy.

June 23 (*Sun.*).—Railway Correspondence & Travel Society. Yorkshire coast rail tour, starting from Leeds City Station at 10.15 a.m.

June 28 (*Fri.*) to June 30 (*Sun.*).—British Transport Commission, modern railway travel exhibition, at Battersea Wharf Goods Depot. Open Friday, June 28, 4 p.m. to 9 p.m., Saturday, June 29, 10 a.m. to 9 p.m., and Sunday, June 30, 2 p.m. to 9 p.m. Admission free.

July 2 (*Tue.*).—Railway Correspondence & Travel Society, Sheffield Branch, at the Livesey Clegg House, Union Street, Sheffield, at 7.30 p.m. Paper on "Swiss Railways," by Mr. D. Sutcliffe.

July 2 (*Tues.*).—Permanent Way Institution, Manchester & Liverpool Section. Additional meeting in the Ambulance Room, Nantwich Road, Crewe, at 7.15 p.m. Short talks and general discussion on permanent way maintenance. Mr. W. F. Beatty will preside.

July 6 (*Sat.*).—Railway Correspondence & Travel Society, East Midlands Branch. Denton Mines rail tour.

July 6 (*Sat.*).—Permanent Way Institution, London Section. Joint visit to Chesterton Junction Welding Depot, Eastern Region, with East Anglia Section member; visit for ladies to colleges in Cambridge.

July 6 (*Sat.*).—Railway Correspondence & Travel Society. Reseau Breton rail tour, leaving Waterloo at 6.35 p.m. on Friday, July 5.

## Railway Stock Market

Fluctuations in British Funds tended to unsettle stock markets which have been uncertain in trend, though industrial shares were not without individual features of strength. Mr. Gaitskell's critical remarks on the functions of shareholders and the news that the Labour Party will later come out with further details of its programme, were factors making for some caution in the City.

Canadian Pacifics again eased with Wall Street and were $69\frac{1}{4}$, compared with $70 a week ago, showing a yield of almost $4\frac{1}{2}$ per cent, which is not unattractive for a prominent dollar stock. The 4 per cent preference stock at £57½ moved fractionally higher, and the 4 per cent debentures have strengthened from £65½ to £66¼. White Pass shares at $23 have been maintained on balance. A feature was demand for Nyasaland Railways shares which changed hands up to 11s. 6d. compared with 10s. 9d. a week ago. Midland of Western Australia ordinary stock was again quoted at 8½ and Emu Bay irredeemable debentures at 38½.

Antofagasta remained the most active foreign railway stock, but again reflected some selling, and at 35½ compared with 36½ a week ago. The preference stock eased fractionally to 45. Both stocks now yield over 11 per cent, and, although it is early yet to form any very definite view, there seem reasonable possibilities of a higher dividend on the ordinary stock for the current year. The 5 per cent (Bolivia) debentures were maintained at 94¼.

United of Havana second income stock was again 8⅛ and the consolidated stock at 2¼. Brazil Railway bonds marked 6¼, while Taltal shares strengthened to 12s., but San Paulo 3s. units have eased slightly to 4s. Mexican Central bearer debentures receded to 65.

International of Central America common shares have been marked up from $43½ to $47½, while the preferred stock remained at $185. Chilean Northern debentures kept at 43½, Guayaquil & Quito assented bonds were 82½, and Costa Rica ordinary stock 24. Dorada ordinary stock was again quoted at 58½.

Among shares of locomotive builders and engineers business was not active, but quotations have been steadier. Beyer Peacock held the higher level of 11s. 1½d. made a week ago. These shares have been more active since they were quoted in 5s. units and the 7 per cent yield on the basis of last year's 16 per cent dividend appears to be attracting some attention. G. D. Peters were 27s. 10½d., while in other directions Charles Roberts 5s. shares at 12s. 9d. were virtually the same as a week ago, though in other directions, North British Locomotive, after their recent outburst of strength, have eased further from 19s. 6d. to 18s. 9d. At Glasgow, Hurst Nelson strengthened from 36s. to 36s. 6d. Birmingham Wagon shares rallied from 17s. 3d. to 17s. 10½d. Gloucester Wagon 10s. shares were good, having risen from 13s. to 15s. 6d., while Wagon Repairs 5s. shares were again 14s. 1½d.

Westinghouse at 39s. 6d. were almost the same as a week ago. Associated Electrical turned easier at 64s. 9d., General Electric kept at 56s. 9d., and English Electric at 59s. 9d. Crompton Parkinson 5s. shares again changed hands around 17s. B.I. Cables were 52s. 6d. and the 10s. shares of the Dowty Group were 37s. 9d., while Ruston & Hornsby have held firm again at 33s. on talk of higher dividend possibilities. Moreover, T. W. Ward at 81s. 6d. remained very firm, as did George Cohen 5s. shares at 13s. 6d. F. Perkins 10s. shares were 14s. 4½d. Steel shares became more active in view of the higher interim dividend announced by Colvilles. Although this increase is to bring the interim more into relation to the final payment, the prevailing assumption in the City is that there are possibilities of a somewhat higher total for the year and that other steel companies may make moderate increases in dividend. Colvilles shares have risen sharply to 32s. 7½d. Channel Tunnel 4s. shares rallied to 18s. 10½d.


## OFFICIAL NOTICES

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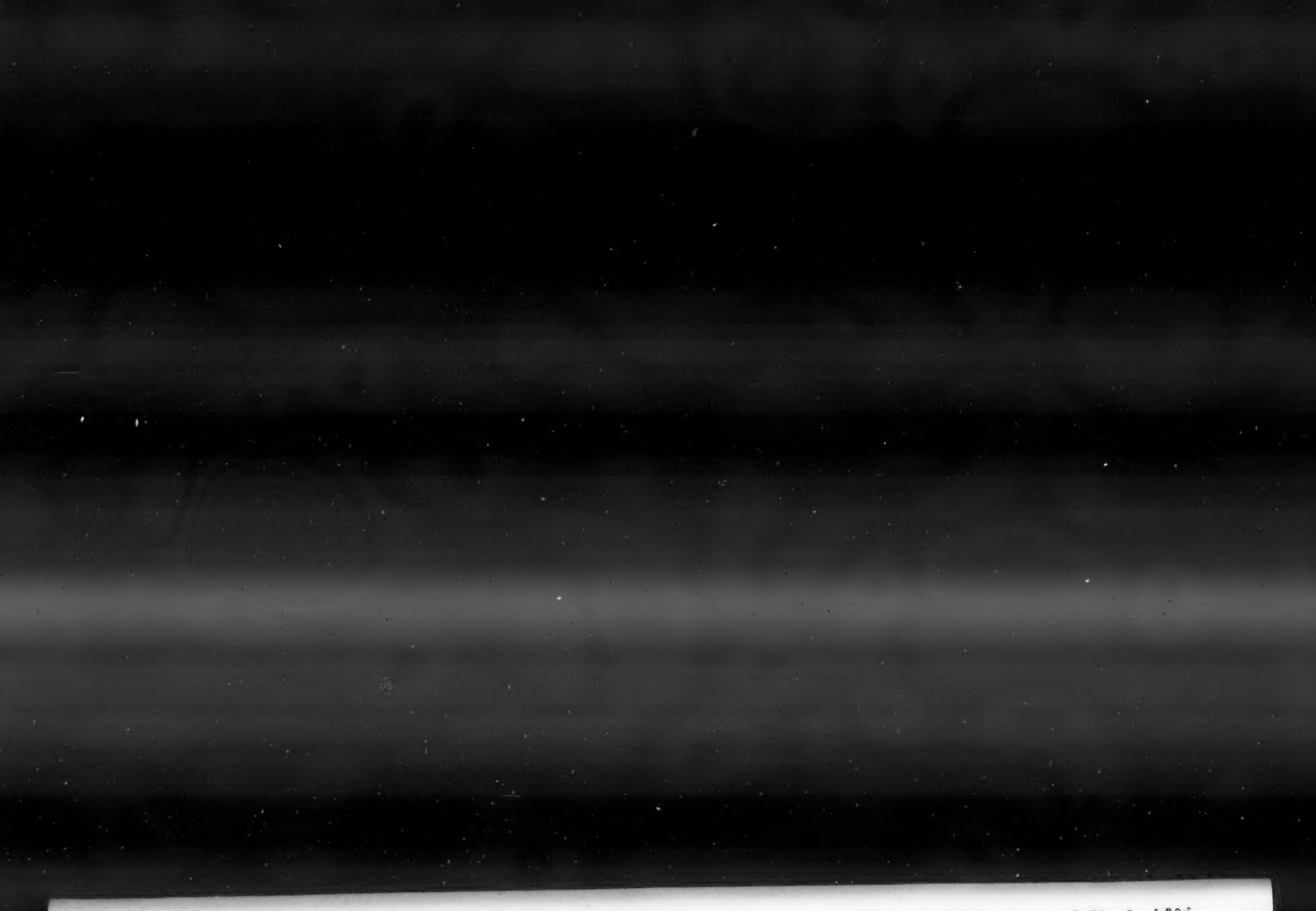
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